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WHAT LESSONS FROM THE NICs? THE INDUSTRIALISATION PROCESS OF BRAZIL, MEXICO, THE REPUBLIC OF KOREA AND SINGAPORE

by

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Preface

This study on the industrialisation process in four newly industrialising countries is published in the framework of the ILO research project on employment, trade and North-South co-operation (Phase II). Designed to be a synthesis of the countrystudies on Brazil, Mexico, the Republic of Korea and Singapore which appeared earlier in this series, it has also made considerable use of other relevant material.

The research project is the follow up of an earlier project[1] carrying the same title. It addresses the following questions: (a) What government policies, institutional and other non-economic factors have shown to be important in the promotion of successful industrial adjustment policies in industrialised countries; (b) what government policies and other economic and non-economic factors have contributed to the successful economic development of the newly industrialising countries (NICs); and (c) what lessons, if any, can be learned from the success of the NICs that can be useful to other developing countries which have committed themselves to a broadly similar growth path.

These questions are being approached at two levels: (i) By means of a number of country case studies on developed countries (the United Kingdom, the United States, Japan, the Federal Republic of Germany, the Netherlands), newly industrialising countries (Republic of Korea, Singapore, Brazil and Mexico) and developing countries (Cameroon, Tunisia and the Philippines); (ii) Through two synthesis reports: one on the industrialised, and one on the newly industrialising countries.

The countries that came to be known as the newly industrialising countries (NICs) emerged in the early 1970s as a group of middle-income developing countries that were showing sustained and higher - and sometimes much higher-than average growth in both manufacturing and overall production. The NICs have come to play a pivotal role in the changing international division of labour. Through rapid growth they have attained a level of

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[1] For a description of the results of Phase I, see G.T. Renshaw (ed.): Employment, trade and North-South Co-operation (Geneva, ILO, 1981).

industrialisation comparable to that of some of the more "established" industrialised countries. The size of their economies have turned them into important markets. They have become important recipients of overseas bank loans and direct investment.

Some, particularly the Asian NICs, have proved to be very dynamic exporters. Although their share of all imports is small, and that of overall demand even smaller, the competitiveness of these exports has given rise to concern among established producers. The ensuing pressure for protectionism in many industrialised countries has been justified by, on the one side, the costs involved in adjusting to these imports and, on the other side, the "unfair" advantage of lower wages in exporting contries. Such arguments neglect the importance of the rapidly growing NICs as export markets. They also disregard that considerably more pressure for adjustment comes from technological change, changes in demand and imports from other OECD countries, and that keeping out developing country imports is unlikely to change this. Moreover, developing countries, including NICs, can hardly be blamed for paying low wages, since that is one of the characteristics of their lower level of development and one that they try to solve by industrialisation and export.

This study compares four newly industrialising countries: Brazil, Mexico, the Republic of Korea and Singapore. It considers their economic and industrial growth in roughly the two decades between 1960 and 1980 and focuses on their long-term development. It does not explicitly deal with the post-1980 period when recession in the OECD led to overall lower growth, nor with the "debt crisis" that caused so many financial problems and social hardship in the Latin American NICs. Their crisis is far from over, although economic growth has meanwhile resumed and Brazil's exports, for example, have shown spectacular growth in recent years. Concentrating on long-term issues, however, can show more clearly the structural trends at stake. It will become clear that many aspects of the financial and social crisis find their origin in pre-1980 developments.

This study thus examines the circumstances under which high growth occurred. It considers the role of policies, foreign and domestic enterprises and above all it asks who benefited from growth. The reason for doing this is twofold. First, there may be lessons to be learned for other developing countries. However unique and complex each economy is, all face a set of questions similar to the ones that are being asked here. One cannot generalise to the whole developing world from these selected illustrations, but they do contain certain dimensions of a dynamic process from which lessons may be learned. Second, in the OECD countries, particuarly among those which have been affected by their imports, the success of the NICs is often discussed as largely due to exploitation of workers, dominance of multinationals, excessive State aid, etc. A closer examination shows that reality is much more complex. It is hoped that the better informed discussion that will ensue, will contribute to an understanding of the long-term implications of NIC and developing country development for the North-South interaction and interdependence.

The author of this study is a staff member of the ILO. Any comments provoked by it would be welcome.

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BEFIEX	Beneficios Fiscais para Exportacao
BOP	Balance of payments
DFI	Direct foreign investment (see also FDI)
FDI	Foreign direct investment (see also DFI)
GDP	Gross domestic product
GNP	Gross national product
GSP	Generalised system of preferences
GTC	General trading company
ISI	Import substitution industrialisation
LDC	Less developed country
MNC/MNE	Multinational corporation/enterprise (see also TNC)
NIC	Newly industrialising country
OECD	Organisation for Economic Co-operation and Development
R & D	Research and development
TNC	Transnational corporation (see also MNC/MNE)

Chapter 1

INTRODUCTION

This study reviews the development of the manufacturing industry in four newly industrialising countries, Brazil, Mexico, Singapore and the Republic of Korea between 1960 and 1980. It focuses on the role of government policies and that of domestic and foreign entrepreneurs in the process of growth and goes on to ask how different groups have benefited from growth. The study's aim is to see whether any conclusions regarding policy can be derived which could assist other developing countries wishing to follow a similar growth path.

The newly industrialising countries (NICs) as a group rose to prominence in the second half of the 1970s. In a world economy that had been growing fast they were found to have been doing particularly well. Their above average performance attracted much attention from other, less successful, developing countries. Their rapid growth turned them into dynamic export markets. Their, at first, narrow specialisation in exports of a few products and product categories only, caused growing concern among competition in the "old" industrialised world. Many, albeit for different reasons, came to ask what caused rapid growth and under what circumstances did it occur.

Today (summer 1985) as the world economy appears to be slowly recovering from its most serious post-war recession, this interest in the NICs may seem outdated. Some of them, like Mexico and Brazil, have been seriously affected by the "debt crisis" which has forced them to take sometimes draconian measures that have caused much hardship, unemployment and misery. Economic growth in the Asian NICs has also slowed down and growth rates in the early 1980s have been considerably lower than in the two previous decades. Does this make the earlier high growth of the NICs less relevant? We do not think so. Their, at times, extraordinary growth performance certainly warrants closer study, even today, because important lessons may be learned.

The turnaround in their performance, when overall world economic growth slowed down, does point at an important question that is returned to a number of times in this study. It tries to compare the performance of some

individual countries and in particular asks what the influence of government policy and other, essentially domestic, factors has been on performance. It gives, by implication, less attention to the influence of the external environment which is largely taken as given. Considering that, in aggregate, their participation in world trade and financial flows, even today, is limited, this seems justifiable. Nevertheless, it is clear that their rapid growth has been helped by the steady growth in overseas lending and investment which took place in the 1960s and 1970s and that rapid growth of manufactured exports has been helped by strong overseas demand.

It is also clear that many external factors are responsible for the problems that the heavily indebted countries are facing today. These include the expensive dollar, high interest rates, reduced private bank lending, and the reduced export possibilities due to lower demand and higher protectionism on main markets. So although the focus of this study is on national developments and policies, the importance of these external factors is duly acknowledged. The focus on domestic factors should therefore not be explained as a judgement about the relative weight of each group of factors when it comes to "success" or "failure". People and governments have simply more chance of influencing domestic than international events.

One of the main reasons for undertaking this study was to find what lessons can be learned for other countries from the development of these NICs which at least until recently were considered to be among the most successful developing countries. This is another reason why the focus is on domestic factors.

Which are the newly industrialising countries? There is no, and never has been agreement on which country was a NIC and which was not. Different definitions have been used and different countries have been included in the list. Three examples of studies that appeared between 1979 and 1981 will illustrate this. A report by a working group of the Foreign and Commonwealth Office ("The newly industrialising countries and the adjustment problem") that was published in 1979 (in London) defined (p. 7) NICs "as the countries in which industrial production ... exceeds a certain proportion of GDP and which are increasing industrial production more rapidly than are the EICs [established industrial countries] of north-west Europe and North America.". Using this definition they came to a total of 23 NICs (10 in Asia, three in

Latin America, seven in Southern Europe and the Middle East, and three in Eastern Europe).

Balassa in the "Reader's guide" to his book The newly industrialising countries in the world economy (New York, 1981) defined (p. xix) NICs "as countries that had per capita incomes between US$1,100 and US$3,500 in 1978, and where the share of the manufacturing sector in the Gross Domestic Product was 20 per cent or higher in 1977". He counted 18 NICs: four in Asia, five in Latin America, two in southern Europe and the Middle East and three in Eastern Europe.

The OECD's report on "The impact of the newly industrialising countries on production and trade in manufactures" (Paris) which was published in 1979, described the NICs (p. 18) as "a group of countries ... whose share in world industrial output and in world exports of manufactures has increased rapidly since the early 1960s and particularly during the 1970s". Their list included 10 countries: four in (South-East) Asia, two in Latin America and four in Southern Europe.

The number of countries included in the list of NICs thus varies depending on whether a static or a dynamic definition is used and on whether - apart from the level of industrial production - exports are included as a criteria. If we exclude the European countries, there seemed to be a hard core of countries that appeared on all three lists, two in Latin America and four in Asia. Among these we selected four for further study: Brazil and Mexico in Latin America, and Singapore and the Republic of Korea in Asia. It is useful to repeat some of the common features of these countries: they had (in 1980) per capita incomes of over US$1,500, about one quarter of their GDP was generated in manufacturing and each contributed about 1 per cent to world exports. Each had shown fairly - and some very - fast growth of manufacturing output, employment and exports.

Yet they also differed in many aspects: Brazil and Mexico's per capita income was more or less equal (at around US$2,000 in 1980), but Singapore's (at nearly US$4,500) was three times as high as that of a citizen of the Republic of Korea. In the Republic of Korea and Singapore manufacturing output had grown rapidly from a relatively small base in 1960, when the two Latin American countries had already a sizeable manufacturing industry in

place. In Singapore agriculture is virtually non-existent, whereas in the other three even today nearly one third of the labour force still works in that sector. Virtually all exports from the Republic of Korea and Singapore are manufactures, whereas for Brazil this was only half and for Mexico even less. As a result, whereas the Republic of Korea was responsible for 1.4 per cent of world manufactured exports in 1980, Mexico, for instance, exported no more than 0.3 per cent of the total.

Looking beyond economics the differences between them are even more striking. Brazil is the world's fifth largest country, Mexico the world's thirteenth largest, whereas tiny Singapore's total land area is no more than 620 sq. km. Differences in population size are smaller. Brazil had 120 million inhabitants in 1980. Mexico 70 million, the Republic of Korea 38 million and Singapore 2.4 million.

Other important differences relate to natural resource endowments. Brazil and Mexico are well-endowed with many mineral resources. Mexico is the fourth largest oil producer in the world (but Brazil, until recently, imported 80 per cent of its oil requirements). Singapore and the Republic of Korea have few natural resources to speak of. Agricultural production in the Republic of Korea and Brazil has shown reasonable growth, but in Mexico agricultural growth has slowed to a very low rate. The land distribution in Mexico and Brazil are among the most unequal in the world, whereas in the Republic of Korea differences in farm size are uniquely small.[1]

The study thus focuses on the years from 1960 and 1980 and discusses some of the causes and consequences of rapid growth in manufacturing in four NICs. It was originally meant to be no more than a synthesis of four case studies that the ILO had commissioned.[2] These studies had been written according to

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[1] An annex briefly discusses some of the socio-cultural differences between the four countries that were considered relevant for the rest of the study.

[2] These studies were published by the ILO as working papers. They are: Linda Lim and Pang Eng Fong: Trade, employment and industrialisation in Singapore (Geneva, ILO, 1982); Robert Edward Looney: Trade, employment and industrialisation in Mexico (Geneva, ILO, 1982); Rogério L.F. Werneck: Industrial growth, foreign trade and economic policy: Some aspects of the rise of Brazil as a NIC (1965-80) (Geneva, ILO 1984); Tony Michell: The Republic of Korea: Employment, industrialisation and trade (Geneva, ILO, 1984).

the same outline but it was perhaps unavoidable that some authors would give more attention to some aspects of the industrialisation process than to others. It has therefore been necessary for this study to consult a number of other sources as well in order to enable comparisons to be made. Even so, a scarcity of data has often prevented more precise comparisons.

The outline of the country case studies was broadly as follows: (i) to document the process of economic and industrial growth and the role of international trade in this; (ii) discuss how government has influenced this growth process; (iii) analyse the enterprise structure that has emerged and how that has influenced the growth process; and finally (iv) discuss what the benefits of growth have been and how these have been distributed. The present study will roughly follow the same outline and each of these issues is discussed in a separate chapter. A few preliminary remarks seem appropriate though.

Economic growth and manufacturing growth are discussed from 1960 to 1980. That is in a sense an arbitrary period, but has nevertheless the advantage of covering a sufficiently long period for certain trends to be identified. Yet to start in 1960 does not do sufficient justice to the two Latin American countries where industrialisation had been well underway before that year. That explains, in part, why post-1960 manufacturing growth rates there were lower than in the two Asian countries where manufacturing growth accelerated in the 1960s from a low base. To stop in 1980 means ignoring the dramatic consequences of the financial crisis in the Latin American countries, as well as the effects of slower OECD demand growth on the Asian NICs. Without in any way wanting to play down the hardship that has been caused by the more recent events, it seems useful to limit the analysis to a period in which structural changes can be identified and the effect of policies assessed. The current situation is so dominated by acute external constraints that the domestic room for manoeuvre and the range of policy options have become extremely reduced. That is quite different from the pre-1980 period when this range and these options were - at least in appearance - much greater. As we would like to see the pre-1980 period as normal and the post-1980 as the exception it seems more useful to stop the discussion there. Whether in the end we will be proved to have been too optimistic in this remains an open question, although we dearly hope that we are not.

The role of government is central in the process of rapid industrialisation though the relationship between policies and performance is rarely as direct as it is sometimes made out to be. Through its trade and industrialisation policies government can try and influence entrepreneurs' decisions by turning the terms of supply and demand in their favour. How effective these policies are is not always clear. Some incentives may do no more than compensate for distortions caused by other policies. Some constraints may be too great to be compensated for by any policy. Certain macro policies and government stability and concern [or the absence of alternatives] may be much more important factors for encouraging entrepreneurs to invest in industry or a specific industry. Governments' ability to influence the level and the direction of investments may thus be limited.

Government guidance may be important but a market economy will rely on private enterprises as the main initiator of economic activity. Nevertheless we found that domestic private entrepreneurs have played only a secondary role in the industrialisation process of many countries. We will try to come up with some reasons for this. Foreign investors have often been much more successful in making use of the opportunities offered. Where government wanted rapid growth but only a limited foreign presence, it has virtually been forced to step in itself.

A successful growth model cannot just be defined in terms of economic growth rates. It must also consider who has benefited from growth and how these benefits have been distributed. Doing so is thus an essential but also hazardous component of the exercise. Employment, wage and income distribution data will be examined but these may not be complete nor wholly reliable and this may make conclusions difficult to draw. Moreover, results should be compared to the magnitude of the problem. Income distribution data tend to be only available for the economy as a whole and may say more about the situation in agriculture than in manufacturing.

The next chapters will discuss each of these issues in more detail. The next chapter will give some factual data about the economic and industrial development in each of the four countries. Chapter 3 will review the role of government policies in the process of growth. Chapter 4 will ask what the role of domestic private and other entreprises has been. Chapter 5 will present some data on wages, employment and the income distribution in an effort to throw some light on the question who benefited from growth and how.

Chapter 2

ECONOMIC AND MANUFACTURING GROWTH OF FOUR NICs

This chapter is of a rather factual nature. Whereas the next chapters consider the role of government policies and entrepreneurs in the growth process as well as the benefits that resulted from it, this chapter limits itself to the presentation of some facts about economic and manufacturing growth in the countries concerned. It is meant to focus on the manufacturing industry and on the years 1960 to 1980 but it is clear that earlier years and the rest of the economy must be taken into account for understanding the developments in that sector in that period. The discussion will therefore be rather broad and start well before 1960.

Rapid economic growth in the newly industrialised countries occurred in the context of a world economy that until 1980 had shown remarkably high growth of economic output, trade and investment. First spurred by the post-(Second World) war recovery, world output and demand increased by 5 per cent per year on average between 1955 and 1970 (OECD, 1982). From 1963 to 1973 it was as high as 6 per cent per annum on average. After 1973 economic growth slowed down, but after two years of slow growth the world economy grew fast again from 1976 to 1979. Expansionary policies in the OECD looked after this. When following the second oil shock the industrialised countries gave more priority to combatting inflation, their restrictive policies plunged the world economy into a recession from which it has yet to fully recover.

World trade grew even faster than total output after 1960. Improved transport and communications and lower trade barriers allowed the international trading volume to grow nearly 50 per cent faster than output between 1963 and 1973 (GATT). Among traded commodities, it was manufactures that grew particularly fast: 11 per cent per year in volume terms. After 1973 world trade growth slowed down. Nevertheless, at a 5 per cent yearly average, world manufactured trade still grew nearly 50 per cent faster than average output growth between 1973 and 1981 (ibid.).

International investment flows followed a pattern that was broadly similar to that of world trade. Between 1960 and 1973 the annual average growth rate

of outward direct investment by the main OECD countries was close to 12 per cent in current dollars. Growth slowed down after 1973. In current dollars it was still around 12 per cent between 1974 and 1979 but as inflation was much higher in these years, real overseas investment growth was much lower (OECD).

This dynamic world environment forms the background against which the sometimes spectacular growth of the NICs occurred. The following sections will discuss the performance of each in some detail.

Mexico

In the nineteenth century most people in Mexico were engaged in agriculture, but minerals and petroleum were the main sources of export earnings. Until the 1910 revolution, mining and related services were largely controlled by foreigners. The poverty of the peasant population and this foreign dominance of the most profitable sectors were among the main factors which caused the revolution.

Economic growth was remarkably slow in the 1920s in spite of a period of recovery. The 1930 world crisis hit Mexico hard, as prices of, and demand for, its main (primary) export products plummetted. Industry then became a more attractive alternative. The 1930 Tariff Code and the 1935 Customs Law increased tariffs to compensate for a shortfall in fiscal income (Bruce Wallace), but they can also be seen as the first signs of encouragement of import-substituting industrialisation. This inward-looking industrialisation had some ideological standing as it was much in line with the nationalistic spirit of the revolution and the 1917 Constitution. The manufacturing industry grew at nearly 6 per cent per year in the 1930s, but overall growth was nearer 4 per cent. The unsettling effect of the reforms undertaken by the Cardenas Government - the petroleum industry was nationalised and land reform accelerated - may have had some influence (see table 1).

The outbreak of the Second World War proved very favourable to Mexico's economic development. The war led to great overseas demand for the country's primary products. Deficient supply from abroad and increasing domestic demand also caused a boom for domestic producers of manufactures (Wallace). Looney attaches great significance to the war period for the shaping of Mexico's

Table 1. Mexico: Rate of growth in GDP by sector, 1930-83

Sector	1930-1940	1940-1950	1950-1960	1960-1970	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Agriculture, forestry and fishing	3.5	6.1	4.5	4.7	1.8	2.5	2.8	0.8	5.0	2.0	0.3	2.2	2.8	0.7	-3.0	2.7	5.2	0.6	6.5
Mining	-1.6	0.0	2.3	1.0	3.0	3.7	2.4	4.6	2.9	0.4	-0.2	10.6	14.6	-6.1	2.0	0.9	2.8	5.4	7.2
Petroleum and petrochemicals	0.4	7.0	9.3	9.3	5.9	14.8	10.2	6.5	9.9	3.4	8.8	2.5	14.8	7.9	10.6	16.4	24.7	22.6	33.3
Manufacturing	5.8	8.0	6.1	9.2	9.4	6.8	10.1	8.1	8.7	3.0	8.3	8.9	5.7	3.6	2.7	3.4	9.5	9.5	7.1
Construction					14.4	13.0	7.4	9.4	4.8	-2.6	17.6	15.8	5.9	5.9	-1.9	-2.0	12.8	13.2	12.3
Electricity					14.1	11.8	19.7	13.8	11.4	7.9	8.9	11.0	9.4	5.8	7.4	7.7	6.7	9.9	7.5
Commerce					7.5	5.5	8.5	7.0	6.5	3.0	6.9	7.6	5.2	3.4	-1.0	2.0	7.9	9.4	8.1
Transport and communications	5.2	5.7	5.8	7.1	8.3	4.9	10.8	7.3	7.9	7.5	9.9	14.3	9.2	8.9	5.1	5.2	13.2	11.2	12.0
Government					7.7	8.0	9.6	3.3	9.7	9.0	13.4	11.2	8.2	10.9	8.2	1.8	6.0	9.3	7.4
Other services					4.7	5.4	6.4	5.9	5.1	7.3	5.6	4.9	3.6	2.6	2.3	2.1			
Total GDP	4.3	6.0	5.6	7.1	6.9	6.2	7.9	6.2	6.8	3.4	7.2	7.7	5.6	4.0	1.6	2.9	8.1	9.0	8.4

Sources. For 1930-65: Ten Cate (1980), from Banco de México.
For 1966-77: Solis (1981), from Banco de México and World Bank.
For 1978-80: United Nations: Economic Survey of Latin America, 1980.

industry. "With foreign supplies of capital equipment difficult to obtain, firms were forced to find ways to use their existing capital stock with increasing effectiveness. Improvisation and adaptation of existing equipment were common. ... The innovative activity observed during this period ... included adaptation of techniques to fit the country's market size, and of products to fit the nation's unique profile of demand." (Looney, 1982, p. 59).

Economic growth averaged 6 per cent per year in the 1940s, but high inflation led to devaluations in 1948, 1949 and, after the Korean war boom, in 1954.

In 1955 a policy of "desarollo estabilizador" (stabilising development) was initiated. This policy stressed the importance of price and exchange rate stability for sustained growth. Taxes were kept low and the tax basis narrow to promote the necessary private savings for investment. The peso was kept fully convertible and capital imports were encouraged to contribute to the financing of the public sector deficits.

"By assigning a key role to the capital account in the balance of payments (BOP), the preoccupation of the Government of maintaining both national and foreign investors' confidence was raised to a ranking of major importance." (Wallace, p. 30). This preoccupation also stressed the need for price stability as inflation would lead to devaluation, which in turn was expected to lead to capital outflows.

The period of "desarollo estabilizador" is associated with rapid and steady economic growth, but also with a growing imbalance in the economy and society as a whole. Gross national product grew by 5.6 per cent per year on average between 1950 and 1960 and by 7.1 per cent between 1960 and 1970. Manufacturing output grew by 6.1 per cent in the 1950s and by 9.2 per cent in the 1960s. Inflation was 2.0 per cent between 1960 and 1965 and 2.8 per cent between 1965 and 1970.

A series of imbalances also developed. Both agriculture and industry proved increasingly incapable of absorbing Mexico's traditionally high demographic growth. The rural-urban and the personal income distribution worsened. The well-protected manufacturing industry needed progressively more capital and intermediate goods imports to maintain its growth pace while

agriculture was increasingly incapable of providing the foreign exchange needed to finance these imports. The growing trade deficit needed to be financed by higher capital imports. This, and the convertibility of the peso, virtually forced the government to follow a very conservative policy. Meanwhile its own income was low and this left little room for initiative to redress the social situation. The conservative policy and the pauperisation of large sections of the population led to growing social tensions and popular protests in the late 1960s.

In response to these protests and in an effort to redress the imbalances, the Echeverria Administration that took over in 1970 decided on a programme of reform. It initiated a policy of "desarollo compartido" (shared development) that stressed job creation, income redistribution and a more balanced geographical distribution of industry in a context of sustained economic growth and export promotion of manufactures. More funds were allocated to education, health care and the social infrastructure in general. However it soon became clear that these objectives were not consistent with the instruments available. Moreover, the new administration faced one immediate problem.

The current account which had been worsening steadily in the late 1960s showed a particularly large deficit in 1970. It was US$1,000 million or nearly twice the size of the previous year. Government considered that reduced public expenditure would slow economic growth and reduce the current account deficit. However, as public spending tends to be traditionally low in the first year of a "sexenio" (and fast at the end) because it takes the new team considerable time to settle down, the cut proved much bigger (over 25 per cent compared to the previous year) than expected. This indeed narrowed the current account deficit, but also slowed down economic growth.

Alarmed by the sharp drop in economic growth (it halved from 6.8 in 1970 to 3.4 per cent in 1971), the government acted quickly to stimulate it. Public investment and overall federal spending increased rapidly in 1972 and 1973. Economic growth accelerated (to 7.2 per cent in 1972) but so did the current account deficit. This deficit went from US$836 million in 1971 to US$1,405 million in 1973 and to US$4,181 million in 1975.

Higher government spending was not met by higher revenues. The government did not succeed in having its new tax reform bill adopted. Private sector opposition was so great that the bill was never submitted to Congress (Solis, p. 76). By 1975 the budget deficit had reached 9 per cent of GDP and the current account deficit 5 per cent of GDP.

Inflation increased from 5 per cent in 1970-72, to 12 per cent in 1973 and 23 per cent in 1974. This was considerably higher than inflation in the United States, Mexico's main trading partner. The margin of overvaluation of the peso reached 30.4 per cent in 1975 (Center for Applied Studies, p. 77). This led to great pressure on the peso which was further aggravated by its free convertibility and capital outflows. In 1976, after having been pegged to the US dollar for 22 years, the peso was allowed to float which led to a de facto devaluation of about 80 per cent.

Upon taking office in 1976, the new Lopez Portillo Government embarked on a post-devaluation stabilisation programme that had, as its main features, a reduction of the current account and budget deficits. Public expenditure was reduced and income from state enterprise increased. Tax revenue increased only marginally though. In 1977, the year after the devaluation, the current account deficit had narrowed to 3 per cent of GDP. The budget deficit dropped to 5.7 per cent in 1977. GDP grew at 3 per cent. One wonders what would have happened thereafter in the absence of oil.

As it happened the discoveries of huge oil reserves and their availability for export greatly reduced the foreign exchange constraint. Oil exports increased from US$1,000 million in 1977 to US$7,000 million in 1980. It also led to a return of investors' and bankers' confidence. Government embarked on an expansionary policy, and economic growth went up quickly. Between 1978 and 1980 the economy grew at 7.5 per cent per year on average. The resumption of rapid growth soon led to all kinds of bottlenecks and shortages appearing which, if anything, had a negative effect on government efforts to reduce inflation. As a result this remained high at around 30 per cent between 1977 and 1980.

The large current account deficits of 1974-76, which together accounted for over US$10,000 million, had in large part been financed by borrowing abroad. This contributed greatly to the foreign debt which increased from

US$6,091 million in 1970 to $26,100 million in 1976 (see table 2). Current account deficits were "small" in 1977 and 1978 (US$1,800 million and 2,600 million respectively) but increased to US$6,300 million and US$11,400 million in 1980 and 1981. Higher interest payments were an important contributing factor to these deficits. They went up from US$1,724 million in 1976 to US$8,383 million in 1981.

Most (in 1980 about two-thirds) of the external debt is owed by the public sector and of that a large part is owed by PEMEX (the state petroleum company). It is interesting to note that the balance of payments problems of the first half of the 1970s were unrelated to the sharp increase in the price of oil that Mexico produced itself.[1] On the other hand, this price increase did not improve its export position as oil exports were non-existent until 1974 and relatively unimportant until 1977. But it was saved from the very rude adjustment problem of most countries that resulted from their higher oil import costs.

It is also remarkable that the yearly increases in foreign debt after 1977 occurred simultaneously with the rapid increases in oil revenues. Net long-term public debt increased by US$6,566 million in 1977 and even higher amounts in subsequent years. In 1981 this increase was US$16,5000 million. At the same time yearly revenues from oil exports increased from US$988 million in 1977 to US$13,3000 million in 1981. Together these provided for an enormous inflow of resources in a relatively short time. Many of these were needed to finance the growing interest payments and the investments of the oil sector.

Sectoral growth: The most important feature of Mexico's economic growth has undoubtedly been the poor performance of the agricultural sector in the last two decades. This sector, that had grown at a rate of 4.5 per cent per year in the 1950s and 4.3 per cent from 1960 to 1965, showed a dramatic decline thereafter. In the late 1960s average growth had dropped to around 1.2 per cent. Between 1970 and 1974 it was 0.2 per cent.[2]

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[1] Mexico imported some oil at the time of the first oil shock but this was only a little over 6 per cent of all merchandise imports in 1974.

[2] The slowdown of agricultural growth was in large part due to a decrease in cultivated area that started in the second half of the 1960s.

Table 2. Mexico: Foreign debt, 1970-82 (US$ millions)

Year	Total	Public	Private	Interest payments			External debt service/exports ratio[1] (%)		
				Total	Public	Private	Total	Public	Private
1970	6 091	4 262	1 829	417	290	127	12.8	8.9	3.9
1971	6 645	4 545	2 100	442	306	136	12.5	8.7	3.8
1972	7 714	5 064	2 660	482	322	160	11.3	7.5	2.8
1973	10 271	7 071	3 200	648	442	206	12.0	8.2	3.8
1974	14 475	9 975	4 500	973	707	266	14.2	10.3	3.9
1975	20 149	14 449	5 700	1 437	1 032	405	20.1	14.5	5.6
1976	26 100	19 600	6 500	1 724	1 319	405	20.8	15.9	4.9
1977	29 712	22 912	6 800	1 974	1 542	432	21.5	16.8	4.7
1978	33 464	26 264	7 200	2 572	2 023	549	22.1	17.4	4.7
1979	40 257	29 757	10 500	3 736	2 887	849	23.0	17.8	5.2
1980	50 713	33 813	16 900	5 436	3 957	1 479	21.8	15.9	5.9
1981	74 861	52 961	21 900	8 383	5 476	2 907	27.2	17.8	9.4
1982[2]	82 362	65 299[3]	17 063	10 880	7 792	3 088	35.4	25.4	10.0

1 Interest payments/total exports.

2 Preliminary.

3 Includes the debt of the former private banks.

Source. Centre for Applied Studies (1983), from Banco de México: Estadísticas históricas de la balanza de pagos e indicadores del sector externo.

Petroleum, construction and manufacturing have been the dynamic sectors. The former's contribution to GDP slowly increased after 1960 and accelerated in the late 1970s when new wells came on stream (table 3). Petroleum output increased by over 15 per cent per year between 1977 and 1979 and pulled overall output growth. In 1980 it grew at nearly 30 per cent (Schlagheck).

Sectoral employment data are given in table 4. Services, manufacturing and mining, and construction have absorbed most new workers. The number of people active in the primary sector declined both in relative and in absolute terms between 1960 and 1975. After 1975 the number of people active in that sector showed some increase.

Manufacturing grew by nearly 6 per cent per year on average in the 1950s (particularly in the second half of that decade it was fast). In the 1960s it grew by as much as 8.5 per cent per year. In the 1970s growth became more irregular. It was slow in 1971 and between 1974 and 1977, and (sometimes quite) high in other years. All in all, manufacturing growth was 6.7 per cent between 1971 and 1980. Its share in GDP increased from 19.2 per cent in 1960 to 23.8 per cent in 1980.

Growth has been concentrated at the capital-intensive end of the industry (tables 5 and 6). Non-metallic minerals, chemicals, rubber, plastics, basic metal and metal products were the dynamic categories which grew at over 8 per cent per year between 1950 and 1978. Sectors that received much foreign investment such as transport equipment and machinery were the fastest growing at over 10 per cent per year between 1964 and 1980. Metal products doubled its share in the total between 1950 and 1978.

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footnote 2 continued from p. 13:

This was particularly the case for non-irrigated land (the irrigated area increased) which is mainly cultivated by small farmers. The agricultural terms of trade worsened after 1965 when agricultural prices were kept constant and the general price level increased by about 3 per cent per year. In the early 1970s, the official guarantee prices, which were meant to encourage production, dropped even lower than international prices. The larger production units then came to concentrate more on products of which the price was not controlled, but the smaller ones kept producing basic foodstuffs. Their lower earnings did not permit them to invest more. Simultaneously, investments from outside the sector (banks, State) (which anyway tended to be more directed towards the large units) also declined (Cassio Luiselli Fernández: "La crisis agropecuaria y la política demográfica", in Gerardo M. Bueno (ed.): Opciones de la política ecónomica en Mexico después de la devaluación (Mexico, Editorial Tecnos, 1977)).

Table 3. Mexico: Structure of gross domestic product by sector, 1950-78
(percentages)

Sector	1950	1960	1965	1970	1975	1976	1977	1978
Gross domestic product	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture	17.8	15.9	14.3	11.6	9.5	9.4	9.8	9.4
Industry								
Mining	4.8	1.5	1.1	1.0	0.9	0.9	0.9	0.8
Petroleum		3.4	3.8	4.3	4.7	5.0	5.6	6.1
Manufacturing		19.2	21.1	22.8	23.1	23.4	23.5	23.8
Construction	22.1	4.1	4.0	4.6	5.2	5.0	4.7	5.0
Electricity		1.0	1.3	1.8	2.1	2.2	2.3	2.3
Commerce		31.2	31.7	31.8	31.2	30.2	29.6	29.4
Transport and communication		3.3	3.0	3.2	3.9	4.0	4.1	4.2
Government	55.3	4.9	5.6	5.8	7.2	7.7	7.5	7.5
Other services		16.5	15.2	14.3	13.4	13.4	13.2	12.7
Adjustment by banking services		1.0	1.1	1.2	1.2	1.2	1.2	1.2

Sources. For 1950; Fischer (1982) (Nacional Financiera, 1978); for later years: Solis (1981) (Banco de México, SA, annual report).

Table 4. Mexico: Distribution of labour force by sector, 1950-78

Sector	1950		1960		1965		1970		1975		1978	
	000s	%	000s	%	000s	%	000s	%	000s	%	000s	%
Primary sector												
Agriculture, forestry, hunting and fishing	4 824	58.3	6 145	54.2	5 245	44.9	5 409	40.3	6 031	37.4	6 438	35.8
Secondary sector	1 320	16.0	2 147	18.9	2 801	24.0	3 618	26.9	4 661	28.9	5 427	30.2
Mining and quarrying	97	1.2	142	1.3	2 241	19.2	2 971	22.1	3 704	23.0	4 144	23.1
Manufacturing	973	11.8	1 556	13.7								
Construction	225	2.7	408	3.6	513	4.4	594	4.4	890	5.5	1 203	6.7
Electricity	254[1]	0.3	41	0.4	47	0.4	53	0.4	67	0.4	80	0.4
Tertiary sector	2 129	25.7	3 040	26.8	3 620	31.0	4 407	32.8	5 418	33.7	6 108	34.0
Commerce	684	8.3	1 075	9.5	1 141	9.8	1 209	9.0	1 270	7.9	1 390	7.7
Transport and communications	211	2.5	357	3.2	362	3.1	369	2.7	401	2.5	425	2.4
Services (including gas, water and santiary services)	879	10.6	1 526	13.5	2 117	18.1	2 829	21.1	3 747	23.3	4 291	23.9
Activities not adequately described	355	4.3	82	0.7								
Total labour force	8 272[2]	100.0	11 332	100.0	11 666	100.0	13 434	100.0	16 110	100.0	17 973	100.0

[1] 1950 total labour force excludes 73,000 persons unemployed for 13 weeks or more.

[2] 1950 electricity figure includes electric, gas, water and sanitary services.

Sources. For 1950 and 1960: Schlagheck, based on ILO: Year Book of Labour Statistics (Geneva, 1971 and 1976); Thomas E. Weil et al.: Area handbook for Mexico (Washington, DC, US Government Printing Office, 1975; 2nd edn.); US Department of Labor: Labour law and practice in Mexico (Washington, DC, Government Printing Office, 1963).
For 1965, 1970, 1975 and 1978: Solis (1981), Production Account Office, Banco de México, SA.

Table 5. Mexico: Composition of manufacturing output, 1950-78 (millions of 1960 pesos)

Sector	1950		1960		1970		1978		Yearly growth rates			
	Value	%	Value	%	Value	%	Value	%	1950-60	1960-70	1970-78	1950-78
Food, beverage and tobacco	5 840	36.4	10 620	36.8	19 644	29.0	27 061	25.8	6.0	6.2	4.0	5.5
Textiles, clothing, leather and footwear	4 193	26.1	5 434	18.8	11 397	16.8	17 095	16.3	2.6	7.4	5.1	5.0
Wood, wood products, paper and printing	1 741	10.8	2 347	8.1	5 110	7.6	7 593	7.2	3.0	7.8	5.0	5.3
Chemicals, rubber and plastics	1 245	7.8	3 245	11.2	9 128	13.5	14 356	13.7	9.6	10.3	5.6	8.7
Non-metallic minerals	565	3.5	1 182	4.1	2 964	4.4	5 726	5.4	7.4	9.2	8.2	8.3
Basic metal	665	4.1	1 786	6.2	4 636	6.8	8 660	8.2	9.9	9.5	7.8	9.2
Metal products	1 815	11.3	4 278	14.8	14 801	21.9	24 570	23.4	8.6	12.4	6.3	9.3
All manufacturing	16 064	100.0	28 892	100.0	67 680	100.0	105 061	100.0	5.9	8.5	5.5	6.7

Source. Tomasini (1980), p. 13, from "Cuentas nacionales y acervos de capital: Consolidadas por tipo de actividad económica, 1950-1967", and annual reports (various years) both from Banco de México, S.A.

Table 6. Mexico: Index numbers of industrial production, 1953-80

Branch of industry	ISIC	1953	1960	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1976	1977	1978	1979	1980	Growth rates			
		1963 = 100									1975 = 100									1953-60	1960-70	1964-70	1971-80
1. Food products	311/2	42	82	113	122	134	142	153	162	173	87	93	98	100	107	108	113	117	126	10.0	7.8	7.4	4.2
2. Beverages	313										67	76	86	91	91	103	115	132	139				8.4
3. Tobacco	314	79	110	105	108	110	111	117	129	139	96	102	92	102	100	111	113	121	125	4.8	2.4	4.8	3.0
4. Textiles	321	61	91	116	123	135	148	157	172	188	82	89	97	97	102	108	110	117	114	5.9	7.5	8.4	3.7
5. Wearing apparel, including footwear	322	-	-	110	116	123	133	144	155	173	75	83	92	93	102	111	115	124	123	-	-	7.8	5.6
6. Leather and leather and fur products	323	-	-	101	104	108	108	119	124	138	-	-	-	-	-	-	-	-	-	-	-	5.3	-
7. Wood products, except furniture	331	-	-	112	118	122	125	125	136	143	102	96	88	80	102	112	119	123	137	-	-	4.2	3.3
8. Furniture and fixtures, except metal	332	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9. Paper and paper products	341	44	80	110	128	136	145	155	173	190	81	85	92	104	112	119	133	138	144	8.9	9.0	9.5	6.6
10. Printing, publishing	342	-	-	115	121	136	147	162	177	196	79	90	86	92	106	100	102	120	123	-	-	8.7	5.0
11. Industrial chemicals[1]	351	-	-	111	123	142	158	179	207	230	67	77	89	95	106	115	115	123	125	-	-	12.9	7.2
12. Other chemical products[1]	352	-	-	-	-	-	-	-	-	-	72	80	91	95	108	113	121	132	138	-	-	-	7.5
13. Petroleum refineries	353	41	82	110	116	119	134	144	151	169	82	88	88	97	111	128	138	152	178	10.4	7.5	7.4	9.0
14. Misc. products of petroleum and coal	354																						
15. Rubber products	355	39	76	115	127	144	154	167	181	185	79	86	92	93	113	100	122	118	137	10.0	9.3	8.2	6.3
16. Plastic products n.e.c.	356	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17. Pottery, china and earthenware	361																						
18. Glass and glass products	362	-	-	118	121	135	153	175	182	205	71	76	87	91	108	116	125	135	150			9.6	8.7
19. Other non-metallic mineral products	369																						
20. Iron and steel basic industries	371	-	-	114	119	138	153	170	183	198	75	83	90	103	105	113	135	145	150			9.6	8.0
21. Metal products, except machinery, etc.[2]	381	-	-	116	123	138	151	168	178	191	70	80	91	97	97	102	118	135	146	-	-	8.7	8.5
22. Machinery, except electrical	382	-	-	120	129	144	153	186	186	239	63	66	68	76	100	104	120	142	154	-	-	12.2	10.4
23. Electrical machinery, apparatus, etc.	383	-	-	-	-	-	-	-	-	-	66	75	86	93	113	117	129	150	167	-	-	-	10.9
24. Transport equipment	384	-	-	133	135	164	175	199	227	256	56	61	74	93	88	77	101	124	142	-	-	11.5	10.9
25. Professional, photographic goods, etc.	385	-	-	114	120	136	147	157	166	188	-	-	-	-	-	-	-	-	-	-	-	-	-
26. Other manufacturing industries	390																						
Manufacturing	3	43	84	116	126	138	147	161	175	189	75	82	90	96	103	106	116	127	134	10.0	8.4	8.5	6.7

[1] Item 12 is included in item 11.

[2] Included in 20.

Source. Yearbook of Industrial Statistics (various years).

Despite overall slower growth in the 1970s some products did well; trucks and artificial fibres tripled their production level between 1970 and 1980. This fast increase was in large part due to rapid growth of the economy from 1978-80 when transport equipment grew by 23 per cent per annum. The share of motor vehicles in all manufacturing production increased from 5 per cent in 1970 to 7 per cent in 1980. Its share in manufacturing employment went up from 3.6 to 5.1 per cent in these years (Comercio Exterior, Nov. 1983). Machinery and steel products both grew at 11 per cent per year. Such high production growth was still considerably less than the increase in demand which, in the case of steel, was nearly 20 per cent per annum in these years. More traditional products such as food and wood products showed much slower growth (table 7).

International trade: Mexico's participation in international trade has been modest and even declined in the 1960s. Imports and exports together were the equivalent of 13 per cent of GDP in 1965 (Reynolds, p. 202). Imports accelerated in the early 1970s, but slowed down thereafter. By 1978 imports and exports of goods and services were no more than 14 per cent of GDP. Rapid trade growth related to the oil boom raised this percentage to 18 in 1980.

Imports consisted mainly of machinery and intermediate goods, such as basic chemicals. Imports of consumer goods were only 15 per cent of the total in 1965 or US$232 million. After that year consumer goods other than food steadily decreased in importance. Food imports increased rapidly in the early 1970s when domestic production was virtually stagnating (table 8).

Mexico's exports are basically primary products: tomatoes, coffee, cotton and some mineral products, such as silver. Petroleum and gas became important in the second half of the 1970s and accounted for about two-thirds of total exports in 1980 (table 9).

Manufactured products, which had known a short-lived export boom during the Second World War (when they made up about one third of the total) accounted for only 10 per cent of the total in 1960. Thanks to fairly rapid growth (and slower growth of primary exports) they steadily gained in importance thereafter and reached US$1,428 million (or nearly 50 per cent of the total) in 1974. However, as a percentage of output they remained low. Only 2.5 per cent of manufactured production was exported in 1965, and by 1974

Table 7. Mexico: Rates of growth of industrial production, 1971-80

Sector	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
General	2.1	10.4	10.1	7.3	4.7	2.7	3.6	9.7	10.3	8.2
Manufactures	2.9	9.3	9.5	6.7	4.2	2.8	3.6	9.1	9.2	5.7
Sugar	2.8	5.1	6.8	3.4	-8.0	4.7	4.3	8.2	-0.1	-8.9
Beer	-12.8	17.4	17.1	12.9	0.4	-2.4	12.2	4.9	12.7	6.3
Beverages	-13.8	10.0	10.6	-2.8	20.2	-13.5	13.0	17.4	18.1	4.3
Tobacco	-0.6	5.4	-9.4	10.8	-1.8	-0.4	11.2	-	-	-
Textiles	27.8	25.1	28.3	5.1	10.1	0.5	12.9	5.9	9.4	-5.7
Printing	3.7	9.8	-8.7	-11.1	20.8	4.9	-15.0	-5.1	26.3	1.7
Tyres	10.5	12.3	5.4	4.4	10.8	18.8	-9.8	-	-	-
Fertilisers	13.6	19.5	8.8	2.5	2.9	3.0	7.4	-7.9	1.8	10.1
Chemicals	8.4	5.3	12.0	11.4	-5.4	5.3	8.5	-5.4	-3.3	-8.4
Artificial fibres	25.5	21.9	20.4	5.6	14.5	8.7	8.0	7.0	12.7	2.3
Cement	2.6	16.8	13.8	8.2	9.6	8.3	5.1	6.2	7.9	7.2
Iron	4.5	13.7	3.5	15.9	-7.9	15.9	22.7	20.2	3.6	4.9
Steel	-0.6	15.9	6.4	9.0	2.5	0.7	5.7	20.4	4.3	-0.2
Copper	9.1	7.2	-3.3	20.0	-5.7	19.0	-5.3	5.1	21.0	3.0
Automobiles	12.0	2.8	21.9	22.6	-3.4	-9.3	-7.2	27.0	19.6	7.6
Trucks	2.3	17.6	25.5	24.0	23.6	-16.5	-18.3	43.0	27.5	22.5
Petroleum and related industries	2.4	6.0	1.4	14.5	11.1	9.6	16.4	12.0	14.6	22.9
Petrochemicals	9.4	17.1	12.3	17.9	4.6	8.7	-4.0	18.0	13.3	12.4
Mining	-3.3	4.7	6.4	10.7	-5.9	6.4	0.8	2.2	4.6	8.3
Electricity	9.8	10.6	8.5	10.6	7.6	8.0	9.3	8.7	8.9	6.5
Construction	-2.6	16.9	17.6	6.0	5.9	-1.9	-2.0	13.4	14.1	13.0

Sources. For 1971-77: Solis (1981), from Banco de México and World Bank.
For 1978-80: SPP: Boletin Mensual de Información Económica. own calculations.

Table 8. Mexico: Imports by type of goods, 1965-77

	1965		1970		1975		1977	
Consumption goods		15.3		16.2		18.8		16.9
Food		0.4		3.2		6.7		4.9
Others		14.9		13.0		12.0		12.0
Intermediate goods		39.2		37.2		37.1		37.9
Capital goods		45.5		46.5		44.1		44.5
Total imports (in US$000s)	1 596.6	100.0	2 326.8	100.0	6 580.2	100.0	5 487.5	100.0

Source. Solis (1981), from Banco de México and World Bank.

Table 9. Mexico: Exports by commodity, 1965-82 (US$ millions)

Sector	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975[1]	1976[1]	1977	1979	1980	1981	1982
Agriculture, livestock, fishing[1]	583.9	600.1	582.4	595.9	669.0	621.6	630.6	786.3	903.6	850.8	821.7	1 220.2	1 414.7	1 779	1 544	-	-
Cotton	212.1	221.9	143.6	170.3	196.0	123.7	120.1	147.9	166.0	181.9	173.7	240.6	182.8	-	-	-	-
Coffee	73.1	84.4	60.2	77.4	73.9	86.1	81.1	85.8	157.0	154.2	184.2	356.8	454.3	575	415	-	-
Tomatoes	35.1	62.8	49.6	57.6	84.1	107.7	90.0	99.1	127.1	94.4	103.7	137.5	225.5	207	185	-	-
Shrimp	42.7	51.8	61.5	49.6	45.8	62.9	69.1	78.3	100.6	116.5	120.3	137.1	162.0	-	-	-	-
Others	220.9	179.2	267.5	241.0	269.2	240.8	270.3	375.2	352.9	303.8	239.8	348.2	390.1	834	824	-	-
Minerals and metals	189.7	190.4	211.3	254.1	258.2	244.3	203.4	231.6	252.2	524.9	457.6	464.3	510.4	317	503	-	-
Silver	44.3	44.6	43.5	69.2	68.7	66.4	46.9	51.1	69.8	148.9	145.7	160.3	185.3	-	-	-	-
Others	145.4	145.8	167.8	184.9	189.5	177.9	156.5	180.5	182.4	376.0	311.9	304.0	325.i	-	-	-	-
Petroleum	40.1	39.5	39.3	33.9	39.9	38.4	31.3	21.4	24.7	123.2	460.1	557.0	915.8	3 974	10 422	-	-
Crude oil	-	19.6	19.1	-	-	-	-	-	-	37.7	435.0	543.5	891.0	3 765	9 429	13 305	15 623
Refined products and petrochemicals	31.3	11.5	11.3	25.8	31.9	31.1	27.5	19.8	24.4	85.5	25.1	13.5	24.8	209	544	-	-
Natural gas	8.8	8.4	8.9	8.1	8.0	7.3	3.8	1.6	0.3	0.0	0.0	0.0	0.0	0.0	449	-	-
Manufactured products	191.0	214.7	312.9	365.1	484.2	417.3	517.0	643.4	919.7	1 428.1	1 201.8	1 190.8	1 390.6	-	-	-	-
Sugar	58.5	56.1	67.2	85.4	137.7	90.4	90.7	102.1	114.6	192.0	132.5	0.0	0.0	-	-	-	-
Other manufactures	132.5	158.6	245.7	279.7	346.5	326.9	426.3	541.3	805.1	1 236.1	1 069.1	1 190.8	1 390.6	-	-	-	-
Non-classified products	153.9	163.6	1.1	0.9	2.3	26.6	27.9	33.6	40.0	72.1	63.3	43.8	46.9	-	-	-	-
Total merchandise exports	1 158.6	1 208.3	1 147.0	1 249.9	1 453.6	1 347.8	1 410.2	1 716.3	2 140.2	2 299.1	3 004.3	3 476.1	4 278.2	8 797	15 304	19 940	21 006

[1] Non-classified products distributed among agriculture, livestock and fish (0.33), minerals and metals (0.25) and remainder non-classified.

Sources. For 1965-77: Solis (1981), from Banco de México and World Bank.
For 1979-80: Anuario Estadistico de los Estados Unides de Mexico, 1980.
For 1981-82: Centre for Applied Studies (1983), from Banco de México, Informes anuales.

this was still no more than 5 per cent. In 1974 only in a few cases was more than 10 per cent of production exported (sugar, basic chemicals, fertilisers and insecticides and non-electric machinery).

In 1975 and 1976 manufactured exports declined in relative terms and temporarily even in absolute terms (to US$1,390 in 1977). After 1977 manufactured exports increased again, but their relative importance continued to decrease due to the overwhelming share of oil.

In the 1960s machinery and equipment, processed foods, wood and wood products and paper and publishing were fast-growing manufactured exports. In the 1970s machinery and transport equipment (motor vehicles and parts) continued to be the fastest growing sector. Between 1977 and 1980 alone this category doubled in value, from US$440 million to US$900 million. It accounted for 25 per cent of all non-Maquila manufactured exports. Other sectors of importance were chemicals, pharmaceuticals, and to a lesser extent, publishing and wood products.

Traditionally most of Mexico's exports go to the United States. Between 1940 and 1960 this was never less than 70 per cent and often over 80 per cent (Reynolds, p. 240). Despite efforts to diversify, in 1980 still over 60 per cent of them went to the Northern neighbours. The United States is also the dominant supplier of Mexico's imports, and this makes it very sensitive to any variation in growth and demand north of its border (see tables 10 and 11).

Table 10. Mexico: Exports by country of destination, 1960-80
(percentage of exports)

Country	1960	1965	1970	1975	1977	1978	1979	1980
United States	61.5	62.6	69.7	61.9	59.3	69.5	70.2	61.9
USSR	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.0
Federal Republic of Germany	2.4	2.1	2.0	3.1	2.2	2.0	2.4	1.7
United Kingdom	1.6	0.8	0.9	1.0	0.8	0.9	0.5	0.5
France	0.8	1.4	0.4	0.8	0.9	0.7	0.8	1.8
Japan	6.0	8.1	5.9	4.6	2.0	1.8	2.8	3.7
LAFTA	-	-	1.9	9.4	8.9	6.6	4.7	4.0
CACM	-	-	0.6	2.8	2.7	2.4	1.6	1.5

Source. Dominguez (1982).

Table 11. Mexico: Imports by country of origin, 1960-80
(percentage of imports)

Country	1960	1965	1970	1975	1977	1978	1979	1980
United States	72.1	65.7	63.7	62.8	63.5	60.7	60.3	62.3
USSR	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0
Federal Republic of Germany	6.2	7.8	7.5	7.3	5.7	6.7	6.2	5.0
United Kingdom	4.9	2.9	2.9	2.9	2.3	2.6	2.0	2.1
France	2.0	3.1	4.3	2.5	2.9	3.7	4.0	2.6
Japan	1.5	2.5	3.5	4.7	5.4	8.0	5.8	5.1
LAFTA	-	-	2.6	6.3	4.4	4.3	4.3	3.4
CACM	-	-	0.5	0.3	0.3	0.1	0.1	0.2

Source. Dominguez (1982).

Finally, the border industrialisation, or Maquila Programme should be mentioned. This programme aims at generating employment and foreign exchange by allowing foreign firms to take advantage of low labour cost. This programme resembles the kind of offshore bonded processing of the Export Processing Zones as they exist in some Asian countries. In 1982 nearly 130,000 people worked in Maquila industries, producing mainly electrical and electronic products (60 per cent of the total) and footwear and clothing. Exports reached US$1,000 million in 1979, or one-third of all Mexico's manufactured exports (including Maquilas). Traditionally almost all Maquilas were United States owned, but more recently a number of European and Japanese firms have also started production (Tomasini, 1980; LARR).

Singapore

Under British rule, the free port of Singapore owed its high level of prosperity (second only to Japan in Asia) to its entrepot function in the trade between Western Europe and South East Asia. It collected such products as tin and rubber from Dutch and other British colonies (now Indonesia and Malaysia) for export to the West and distributed European manufactured products to the region.

Over the years the entrepot trade gave rise to a whole range of financial, communications, commercial and shipping services. Singapore became a true service centre. Over 70 per cent of the population was engaged in this sector in 1947 (Trolliet and de Mitry).

Little industry developed. The protection that would have been necessary to shelter such an activity was considered to run counter to the country's trading interests based as these were on the absence of any trade barriers. The industries that developed were: "(i) Industries based on easy access materials, e.g. industries processing rubber, coconut and vegetable oils, timber and other tropical produce. (ii) Industries catering to the local market and protected from import competition by high transport costs. They included industries producing beverages, clay products and furniture. (iii) Auxilliary and services industries which had to be located near the sources of demand such as engineering, printing and publishing, motor vehicle repair and ship repair activities." (Pang and Tan, p. 142).

Economic growth was relatively slow in the 1950s. After the Korean war boom, growth of international trade slowed down, which meant less activity for Singapore. The unstable political situation at home and in its immediate vicinity were both the cause and the result of high unemployment.

Economic growth was relatively modest in the first half of the 1960s, very high (16.1 per cent per year on average!) in the second half, slowed down in the early 1970s (in particular, immediately after the oil crisis), but was on average still around 8 per cent in the 1970s. Altogether it was 9.5 per cent on average per year in real terms between 1960 and 1982 (table 12).

The acceleration of economic growth after 1965 found its origin in economic policies that stimulated manufacturing and construction, the boom in world trade, as well as in some "special" factors. The year 1965 marked the end of Indonesia's "confrontation policy" which had slowed down trade with that country and had had a negative effect on stability in the region. This had, in turn, depressed (foreign) investments. Singapore also profited from the escalation of the Vietnam war that meant growing demand for goods and services there. Finally, the discovery of oil in the region led to a boom in exploration and related activities, many of them Singapore-based.

Table 12. Singapore: Rate of growth of GDP by industrial sector, 1960-82
(at constant 1968 prices)

(%)

Industrial sector	1960-65	1966-70	1960-70	1971-75	1976-82[1]	1971-82[1]	1960-82[1]
Total	5.5	16.1	10.1	8.8	8.7	8.6	9.5
Agriculture and fishing	1.1	4.5	4.0	-0.6	0.6	1.0	2.8
Quarrying	4.4	14.7	10.0	14.5	9.3	11.2	10.9
Manufacturing	9.1	23.4	15.1	8.5	8.3	8.6	12.0
Utilities	5.1	15.0	10.6	8.7	9.6	9.2	9.9
Construction	19.1	17.2	16.1	7.0	9.4	8.7	12.3
Trade	2.8	13.5	8.2	8.3	6.8	7.0	7.7
Transport and communications	1.6	16.6	7.8	14.3	13.8	14.0	11.1
Financial and business services	10.5	29.4	17.0	11.3	12.8	12.4	14.6
Other services	5.3	8.4	6.8	8.1	6.7	7.0	6.0

[1] Preliminary

Sources. Lim and Pang (1984) from: Singapore, Department of Statistics: Singapore National Accounts, 1960-1973 (Singapore, Singapore National Printers, 1975), p. 35; idem: Yearbook of Statistics, 1980/81 (Singapore, Singapore National Printers, 1981), p. 66; idem: Yearbook of Statistics, 1982/83 (Singapore, Singapore National Printers, 1983), p. 78.

The sharply lower growth between 1973 and 1975 was the result of the oil crisis, lower demand as a result of the global recession and, to a lesser extent, of the end of the Vietnam war. Manufacturing suffered in particular and grew at only 0.9 per cent per annum in these years. The fact that overall GDP growth did not drop further was largely the result of sustained high growth of construction, and infrastructural activities (Wong, p. 131). The departure in 1971 of the bulk of the British troops seems not have affected growth rates much. This is remarkable considering that it reduced the British contribution to Singapore's GDP from 20 per cent to only 1 per cent (Trolliet and de Mitry).

The 1970s saw a continuation of the structural changes that were already visible in the 1960s. The contribution of entrepot trade to GDP declined (but remained very important) and that of "other services" (financial and business services, tourism, air, sea and telecommunications) increased. After the spectacular growth a decade earlier, the share of manufacturing in GDP remained virtually the same in the 1970s. In 1982 it was 21.5 per cent compared to 20.5 per cent in 1970 (table 13).

In the 1960s economic growth was achieved with remarkable price stability. Inflation was around 1 per cent per year. In the 1970s, world inflation and the oil price crisis did not leave Singapore unaffected and the consumer price index rose by 5.6 per cent per year during the decade (it was 20 per cent in 1973 and 1974). Inflation slowed down after 1975, but rose after the second oil price hike and peaked at 8.2 per cent in 1981 before falling rapidly to 1 per cent in 1983 (Lim and Pang). Singapore, which is both an importer and exporter of oil has seen its debt position little affected by the 1973 oil crisis. By 1978 its net foreign debt was estimated at only US$1,000 million (Trolliet and de Mitry).

Sectoral growth: Virtually all sectors of the economy contributed to the overall dynamic growth of the economy at 9.5 per cent per year between 1960 and 1982. Agriculture was the only sector that lagged behind (at 2.8 per cent average per year) but the small weight of this sector (3.8 per cent of all output in 1960, 1.0 per cent in 1982) prevented this poor performance from pulling the overall figure down. Construction at 16.1 per cent and manufacturing at 15.1 per cent growth per annum (and 23.4 per cent per annum during 1966-70!) pulled growth in the 1960s. Slower economic growth in the

Table 13. Singapore: Economic structure: Industrial sectors as proportions of Gross Domestic Product, at 1968 market prices

(%)

Industrial sector	1960	1970	1980	1981	1982[1]
Agriculture and fishing	3.8	2.3	1.2	1.1	1.0
Quarrying	0.3	0.4	0.3	0.4	0.5
Manufacturing	12.8	20.5	24.1	24.0	21.5
Utilities	2.3	2.6	2.9	2.8	2.7
Construction	3.5	6.3	4.7	5.1	6.5
Trade	31.2	28.1	24.4	23.5	23.2
Transport and communications	13.3	11.3	18.3	19.0	19.5
Financial and business services	7.1	13.9	18.0	19.4	20.7
Other services	17.7	13.6	11.0	10.7	11.1
Total	100.0	100.0	100.0	100.0	100.0
GDP at 1968 prices ($m)	2 304.5	5 579.3	13 366.5	14,695.2	15,626.9

[1] Preliminary.

Sources. Lim and Pang (1984) from: Singapore, Department of Statistics: Singapore National Accounts 1960-1973 (Singapore, Singapore National Printers, 1975); idem: Yearbook of Statistics, 1982/83 (Singapore, Singapore National Printers, 1983).

1970s (of 8.6 per cent between 1971 to 1982) was largely the result of a slowdown in these sectors (to 8.7 per cent and 8.6 per cent respectively). The trade sector lost some importance but other service sectors, such as transport and communications at 11.1 per cent per annum between 1960 and 1982 did very well. Financial business services was in fact the fastest growth sector at 14.6 per cent per annum.

Manufacturing has become the most important sector in terms of employment. From employing only 14.3 per cent of the total in 1957, it increased to 29.5 per cent in 1982. The share of commerce declined. This reflects the decreasing importance of entrepot trade as a generator of job opportunities in Singapore. Despite their growing share in GDP, transport and communications and financial and business services employ relatively few people (table 14).

Before 1960 few manufacturing activities existed. After 1960 and particularly after 1965, manufacturing grew rapidly. In terms of output, the fastest growth sector was recorded in petroleum refining and petroleum products. "Situated on the main shipping route from the Persian Gulf to East Asia, as well as contiguous to the producing areas of South-East Asia, Singapore has a locational advantage for petroleum refining, which the government was quick to exploit by offering pioneer-industry privileges to the large international oil companies." (Geiger, p. 170). Until 1972, Viet Nam was its main customer.

Electrical and electronic products was the second most important sector in terms of output growth. Much of this consisted of assembly of semi-conductors, integrated circuits, radios, televisions, tape recorders and household appliances. It is the sector where most jobs were created (table 16).

Another high growth sector was transport equipment. This was mainly shipbuilding and ship repair (including oil rigs). Especially in the case of oil rigs, one could again speak of a locational advantage in view of the country's nearness to some main oil fields. It also included automobile and truck assembly. Textiles, clothing, leather and footwear also showed very high growth. This sector was also the second biggest employer.

Table 14. Singapore: Structure of employment by industrial sector

(%)

Industrial sector	1957	1970	1980	1981	1982
Agriculture and fishing	6.9	3.5	1.6	1.1	1.0
Quarrying	0.3	0.3	0.1	0.1	0.2
Manufacturing	14.3	22.0	30.1	30.4	29.5
Utilities	0.9	1.2	0.8	0.7	0.7
Construction	5.2	6.6	6.7	6.0	6.3
Trade	27.8	23.4	21.3	21.7	22.2
Transport and communications	10.7	12.1	11.1	11.4	11.4
Financial and business services	4.3	4.0	7.4	7.6	7.9
Other services	29.1	26.8	20.9	21.0	20.8
Total	100.0	100.0	100.0	100.0	100.0
Total employment (persons)	471 918	650 892	1 077 090	1 112 818	1 140 507

Sources. Lim and Pang (1984) from: Singapore, Department of Statistics: Report on the Census of Population, 1970 (Singapore, Singapore National Printers, 1973); idem: Census of Population, 1980, Release No. 4 (Singapore, Singapore National Printers, 1981); Singapore, Ministry of Labour: Report on the Labour Force Survey of Singapore, 1981 (Singapore, Printers & Converters, 1982); idem: Report on the Labour Force Survey of Singapore, 1982 (Singapore, Photoplates Private Ltd., 1983).

Table 15. Singapore: Rate of growth of manufacturing output by 3-digit industries, 1960-81

(%)

Industrial code	Industry major group	1960-65	1966-70	1960-70	1971-75	1976-81	1971-81	1960-81
311-2	Food	15.5	32.2	22.0	9.9	12.5	11.3	16.0
313	Beverages	4.4	4.1	5.4	16.8	16.8	16.7	10.6
314	Cigarettes and other tobacco products	15.3	4.3	9.6	11.4	4.7	7.5	7.9
321	Textiles and textile manufactures				19.2	3.2	12.6	
322	Wearing apparel except footwear	25.7	35.8	29.6	23.6	17.9	22.4	24.2
323	Leather and leather products				12.6	9.8	13.7	
324	Footwear				6.4	10.1	8.8	
331	Sawn timber and other wood products except furniture	13.0	22.0	18.0	11.8	8.7	12.4	14.7
332	Furniture and fixtures except primarily of metal	23.3	14.7	20.1	13.4	35.2	25.1	22.6
341	Paper and paper products	15.9	10.6	22.0	21.5	21.4	21.1	21.4
342	Printing and publishing	7.7	10.7	8.7	17.7	18.4	19.1	14.0
351	Industrial chemicals and gases				33.1	11.6	21.8	
352	Paints, pharmaceutical and other chemical products	32.6	39.1	35.6	32.9	16.3	22.4	29.9
353-4	Petroleum refineries and petroleum products				32.2	18.8	25.0	
355	Processing of jelutong and gum damar	3.8[1]	18.0[1]	11.6	11.8	11.5	8.1	8.7
356	Rubber products except rubber footwear				5.3	5.7	5.6	
357	Plastic products	-	-	-	27.7	26.4	27.9	-
361-2	Pottery, china, earthenware and glass products				18.8	19.5	20.3	
363	Bricks, tiles and other structural clay products				9.7	11.6	12.0	
364	Cement and cement additives	24.2	10.1	17.9	39.7	16.5	23.8	20.5
365	Structural cement and concrete products				46.0	32.6	35.3	
369	Asbestos, stone and other non-metallic mineral products				27.4	10.2	15.2	
371	Iron and steel	41.0	13.7	31.4	26.3	17.6	19.7	24.3
372	Zinc and other non-ferrous metals				17.0	31.0	19.5	
381	Metal grills, cans, pipes and other fabricated products	25.3	23.5	21.8	21.8	24.1	21.0	20.4
382	Calculators, refrigerators, air-conditioners and industrial machinery	3.5	30.6	16.1	65.0	29.7	33.5	26.9
383	Radios, televisions, semi-conductors and other electrical machinery	8.3	70.6	32.4	38.8	32.0	32.8	33.0
384	Transport equipment and oil rigs	16.4	42.8	26.4	32.8	14.8	19.2	22.4
385	Professional and scientific equipment and photographic and optical goods	-	-	-	63.4	8.5	27.5	-
390	Other manufacturing industries (jewellery, toys, umbrellas, etc.)	32.2[2]	27.4[2]	28.9	4.9	23.4	14.9	20.9
	TOTAL MANUFACTURING EXCLUDING RUBBER PROCESSING	18.5	30.9	23.7	28.0	19.2	22.8	23.1

Source. Lim and Pang.

Table 16. Singapore - Employment in Manufacturing, 1957, 1970 and 1980

	Number			% distribution			Absolute change			Annual growth rate (%)		
	1957	1970	1980	1957	1970	1980	1957-1970	1970-1980	1957-1980	1957-1970	1970-1980	1957-1980
Food	7085	10477	11954	10.5	7.3	3.7	3392	1477	4869	3.1	1.3	2.3
Beverages	2181	2747	3349	3.2	1.9	1.0	566	602	1168	1.8	2.0	1.9
Tobacco	333	1167	1240	0.5	0.8	0.4	834	73	907	10.1	0.6	5.9
Textile, rope, twine & nets	1141	6000	9230	1.7	4.2	2.8	4859	3230	8089	13.6	4.4	9.5
Wearing apparel except footwear	9674	16805	34589	14.4	11.7	10.7	7131	17784	24915	4.3	7.5	5.7
Footwear	3208	3134	2974	4.8	2.2	0.9	-74	-160	-234	-0.2	-0.5	-0.3
Wood & wood products	4742	8565	10391	7.0	6.0	3.2	3823	1826	5649	4.7	2.0	3.5
Furniture	3996	6175	11477	5.9	4.3	3.5	2179	5302	7481	3.4	6.4	4.7
Paper products, printing & publishing	6323	11264	18790	9.4	7.9	5.8	4941	7526	12467	4.5	5.3	4.8
Chemical products	1723	9776	13035	2.6	6.8	4.0	8053	3259	11312	14.3	2.9	9.2
Rubber produots	7400	5825	3694	11.0	4.1	1.1	-1575	-2131	-3706	-1.8	-4.5	-3.0
Nonmetallic mineral products	3577	4941	5187	5.3	3.5	1.6	1364	246	1610	2.5	0.5	1.6
Metal products	2825	10265	23714	4.2	7.2	7.3	7440	13449	20889	10.4	8.7	9.7
General engineering & machinery	3976	8955	26885	5.9	6.3	8.3	4979	17930	22909	6.4	11.6	8.7
Transport equipment	1620	16324	36376	2.4	11.4	11.2	14704	20052	34756	19.4	8.3	14.5
Electrical machinery & repairs	868	12405	83819	1.3	8.7	25.9	11537	71414	82951	22.7	21.1	22.0
Miscellaneous	6693	8275	27417	9.9	5.8	8.5	1582	19142	20724	1.6	12.7	6.3
Total manufacturing	67365	143100	324121	100.0	100.0	100.0	75735	181021	256756	6.0	8.5	7.1
Total non-manufacturing	404553	507792	752969				103239	245177	348416	1.8	4.0	2.7
Total all sectors	471918	650892	1077090				178974	426198	605172	2.5	5.2	3.4
Manufacturing as % of total	14.3	22.0	30.1				42.3	42.5	42.4			

Source: Singapore population census reports.

In the 1970s electrical and electronic products such as calculators, refrigerators, air conditioners, as well as radios, televisions and semi-conductors was the fastest growing sector. Other dynamic sectors included cement and cement products, professional and scientific equipment and photographic and optical goods, plastic products and furniture. Petroleum refining and transport equipment and oil rigs remained key sectors (table 15).

The changing manufacturing structure is also a reflection of the growing orientation towards exports. In 1960 over two-thirds of manufacturing output was for the domestic market; by 1980 this was little more than a third.

International trade: Trade - mainly entrepot trade - was of vital importance to Singapore well before 1960. After 1960 its importance, particularly that of manufactured exports, further increased. Between 1970 and 1981 direct manufactured exports increased over tenfold (Lim and Pang, p. 42 and table 18). Today manufactures are more important than entrepot trade, and Singapore has become a country where total export income (in terms of output) is higher than GDP (in terms of value added). In 1978, for instance, when GDP was US$16,299.3 million, total export income amounted to $22,985.5 million (Chen).

Manufactured exports grew from S$164.3 million in 1960 to S$1,523.0 million in 1970, and to S$16.203.0 million in 1979. This high increase in the 1970s is in part explained by the price increase of oil which makes up a significant portion of the country's exports: exports of petroleum products increased from S$580 million in 1970 to S$7,075 million in 1979. However, even without petroleum the average growth in the 1970s was 28.7 per cent. (Chia, 1982, p. 48).

The most important single export product is petroleum products which accounted for about 40 per cent of the total in the 1970s (table 17). Second is electrical goods and electronics which increased their share of total export sales from 14 per cent in 1970 to 21.7 per cent in 1979. Other exports include transport equipment and oil rigs (7.3 per cent in 1979), industrial machinery (4.7 per cent) and garments (3.2 per cent). Exports have become increasingly important for Singapore's manufacturing industry. In 1970 less than 40 per cent of its output was exported. By 1980 this was over 60 per cent. In some sectors such as electrical machinery this is much higher (table 18).

Table 17. Singapore: Domestic exports by commodity, 1970-82

($m)

Commodity	1970	1975	1980	1982
Total	1 832.2	7 540.4	25 805.2	29 157.8
Food	105.4	278.1	600.6	449.5
Beverages and tobacco	11.8	25.8	102.7	134.1
Crude materials[1]	29.9	44.9	152.3	125.3
Mineral fuels[2]	792.2	3 233.1	11 612.2	13 846.5
Animal and vegetable oils	48.8	56.1	393.7	482.6
Chemicals	43.3	208.2	572.9	690.7
Manufactured goods by materials	169.9	486.2	1 322.7	1 214.4
Machinery and transport	197.6	1 686.5	6 566.6	6 961.0
Miscellaneous manufactured articles	144.5	668.3	1 886.5	1 907.2
Miscellaneous transactions n.e.s.	288.8	853.2	2 595.1	3 346.5

1 Excludes processed rubber and sawn timber.

2 Figures from 1975 include petroleum naphtha which was previously included under chemicals.

Sources. Lim and Pang (1984) from: Singapore, Department of Statistics: Yearbook of Statistics 1980/81 (Singapore, Singapore National Printers, 1981), p. 134; idem: Yearbook of Statistics 1982/83 (Singapore, Singapore National Printers, 1983), p. 146.

Table 18. Singapore: Direct exports by 3-digit industries, 1970-81 (Value and ratio/percentage of total sales)

($'000)

Industrial code	Industry major group	1970		1975		1980		1981	
		Value	Ratio	Value	Ratio	Value	Ratio	Value	Ratio
311-2	Food	185 674	33.2	317 558	37.2	871 662	52.0	877 599	50.3
313	Beverages	13 127	19.8	31 305	23.7	55 758	22.6	96 209	29.2
314	Cigarettes and other tobacco products	4 040	4.2	2 506	1.7	17 947	10.4	22 099	11.6
321	Textiles and textile manufactures	40 831	50.0	141 541	55.0	238 045	50.1	199 679	47.5
322	Wearing apparel except footwear	55 459	64.7	197 830	69.4	602 335	71.0	652 995	71.2
323	Leather and leather products	8 303	54.4	12 128	52.9	19 604	40.7	21 871	41.1
324	Footwear	4 078	22.3	12 573	38.7	20 037	38.1	19 124	34.6
331	Sawn timber and other wood products except furniture	84 848	46.3	195 779	61.3	408 378	54.6	324 298	51.1
332	Furniture and fixtures except primarily of metal	2 456	10.2	12 959	25.9	97 157	44.2	137 636	50.7
341	Paper and paper products	5 893	15.5	11 149	11.2	24 215	9.1	35 516	11.8
342	Printing and publishing	13 189	13.8	45 550	19.7	99 225	18.1	113 760	17.1
351	Industrial chemicals and gases	5 167	15.0	34 621	23.9	179 086	52.2	163 421	45.8
352	Paints, pharmaceutical and other chemical products	22 147	28.4	148 410	55.7	353 023	61.9	383 855	58.1
353-4	Petroleum refineries and petroleum products	580 073	47.7	3 102 654	66.2	7 618 813	67.3	9 612 989	66.9
355	Processing of jelutong and gum damar	10 756	72.9	14 665	70.9	16 017	63.4	18 009	61.9
356	Rubber products except rubber footwear	14 879	36.7	18 420	32.0	46 362	48.2	31 779	42.1
357	Plastic products	10 206	30.1	35 022	26.3	107 152	21.9	117 310	22.8
361-2	Pottery, china, earthenware and glass products	8 437	48.4	11 436	40.9	36 726	55.7	46 382	56.2
363	Bricks, tiles and other structural clay products	119	1.6	200	1.2	649	2.1	881	2.5
364	Cement and cement additives	1 496	4.1	27 196	16.9	74 836	26.6	85 315	24.2
365	Structural cement and concrete products	-	-	-	-	1 491	0.8	799	0.3
369	Asbestos, stone and other non-metallic mineral products	15 220	64.4	40 529	46.7	24 317	21.4	29 983	21.7
371	Iron and steel	1 792	3.6	15 009	10.8	72 530	22.0	53 310	14.7
372	Zinc and other non-ferrous metals	14 130	57.5	18 964	43.5	144 246	76.7	81 191	63.8
381	Metal grills, cans, pipes and other fabricated products	50 979	24.2	149 309	30.3	354 880	29.4	409 833	27.4
382	Calculators, refrigerators, air-conditioners and industrial machinery	16 957	24.6	477 049	73.8	1 085 992	68.9	1 684 131	72.7
383	Radios, televisions, semi-conductors and other electrical machinery	212 049	77.3	1 255 096	85.5	5 093 044	83.1	5 687 687	83.1
384	Transport equipment and oil rigs	98 533	31.3	671 410	56.9	968 814	51.2	996 537	46.6
385	Professional and scientific equipment and photographic and optical goods	5 900	48.0	153 100	78.9	336 793	91.7	257 745	90.2
390	Other manufacturing industries (jewellery, toys, umbrellas, etc.)	36 296	31.9	46 725	31.1	203 780	46.3	213 307	42.9
	TOTAL MANUFACTURING EXCLUDING RUBBER PROCESSING	1 523 033	39.6	7 200 693	58.1	19 172 916	62.0	22 375 250	61.2

Source. Lim and Pang (1984) from: Singapore, Department of Statistica: Report on the Census of Industrial Production 1970 (Singapore, Government Printing Office, 1972), pp. 10-11; idem: Report on the Census of Industrial Production 1975 (Singapore, Photoplates Pte Ltd., 1976), pp. 12-13; idem: Report on the Census of Industrial Production 1980 (Singapore, Singapore National Printers, 1981), pp. 30-31; idem: Report on the Census of Industrial Production 1981 (Singapore, Namic Printers Pte Ltd., 1982), pp. 30-31.

Domestic manufacturing activities in Singapore have a very high import content. On average this was 58.3 per cent for direct imported inputs and 64.8 per cent for direct and indirect inputs in 1973. For certain sectors such as rubber processing, it was as high as 95 per cent, for petroleum refining 80.per cent (ibid.).

> "This high import content reflects various factors - the lack of domestically produced industrial raw materials and fuel, complete freedom to import in the absence of exchange control and with minimal import duties, lack of policy requirement regarding domestic value added content for access to various investment incentives, and inadequate development of domestic intermediate and supporting industries". (ibid.).

Japan, the United States and Malaysia are the country's main export markets, but together they take less than one half of the total (table 20).

On the import side the main trading partners are also Japan, the United States and Malaysia. The high price of oil - which make up 40 per cent of the country's imports (table 19) - has raised Saoudi Arabia to the ranks of main suppliers by value (table 21).

Table 19. Singapore: Retained imports by commodity, 1960-82

($m)

Commodity	1960	1970	1980	1982[1]
Total	817.7	4 610.2	35 697.7	44 929.6
Food	263.1	506.3	1 507.9	1 663.4
Beverages and tobacco	21.6	68.1	221.4	256.6
Crude materials	-28.5	-541.5	-1 130.8	-349.7
Mineral fuels	199.2	984.5	14 535.7	19 709.5
Animal and vegetable oils	9.2	34.6	299.2	373.8
Chemicals	67.2	301.3	1 841.1	1 759.0
Manufactured goods	205.2	1 397.7	5 118.2	5 783.1
Machinery and equipment	69.6	1 395.1	10 781.0	12 634.1
Miscellaneous manufactures	139.8	435.3	2 265.2	2 928.0
Miscellaneous	-128.7	28.8	258.8	171.8

[1] Preliminary

Source. Lim and Pang (1984) from: Singapore, Ministry of Trade and Industry: Economic Survey of Singapore, 1982 (Singapore, Singapore National Printers, 1983), pp. 110-112.

Table 20. Singapore: Exports by region and country of destination (percentages)

	1970	1975	1980	1982
Asia	60.9	48.0	53.2	57.6
North-East Asia	19.0	23.3	25.1	27.1
Hong Kong	6.7	10.0	10.3	9.4
Japan	11.8	12.2	11.2	14.6
South-East Asia	38.1	17.6	17.0	19.3
Malaysia	11.9	8.9	8.7	12.4
South Asia	1.9	2.2	5.5	5.7
West Asia	1.9	4.9	5.6	5.5
Europe	16.6	18.1	15.0	12.2
EEC (10)	11.7	14.4	11.9	10.3
United Kingdom	6.2	4.4	2.7	2.2
EFTA	1.6	1.8	1.4	1.0
Socialist Europe	1.6	0.9	0.6	0.7
North America	11.7	16.5	15.6	14.9
United States	11.1	15.6	15.1	14.4
LAFTA	0.0	0.2	1.8	0.3
Oceania	6.6	11.8	10.9	9.2
Australia	3.8	5.6	5.2	4.5
Rest of world	3.8	5.1	3.4	5.7
Total (US$ mlln)	1 832.2 100.0	7 540.4 100.0	25 805.4 100.0	29 157.8 100.0

Sources. Lim and Pang (1984) from: Singapore, Department of Statistics: Yearbook of Statistics, 1980/81 (Singapore, Singapore National Printers, 1981), pp. 130-131; idem: Yearbook of Statistics, 1982/83 (Singapore, Singapore National Printers, 1983), pp. 142-143.)

Table 21. Singapore: Imports by region and country of origin, 1975-82

Country/area	1975	1980	1982
Asia:	64.5	71.9	68.7
North-East Asia	30.4	31.5	30.0
Japan	21.7	24.5	22.7
South-East Asia	5.5	10.4	9.6
Malaysia	5.1	8.8	7.5
South Asia	0.5	-	-
West Asia	28.1	30.0	29.1
Saudi Arabia	11.6	16.9	19.2
Kuwait	4.2	7.7	1.9
Iran	6.8	0.9	4.2
Europe:	15.7	13.5	13.6
EEC (10)	13.4	10.6	11.2
United Kingdom	5.3	3.9	3.2
EFTA	2.3	2.9	2.4
North America	17.6	16.7	14.3
United States	17.2	16.4	14.2
LAFTA	-	0.6	0.4
Oceania	3.4	2.6	2.3
Rest of world	0.1	-	0.7
Total (S$m)	14 052.9	35 697.7	44 929.6

Source. Lim and Pang (1984) from: Singapore, Department of Statistics: Yearbook of Statistics, 1980/81 (Singapore, Singapore National Printers, 1981), pp. 126-131; idem: Yearbook of Statistics, 1982/83 (Singapore, Singapore National Printers, 1983), pp. 138-143.

The Republic of Korea

The Republic of Korea was established as an independent republic in August 1948. From 1910 to 1945 Korea had been a Japanese colony and from 1945, when North and South had been split, until 1948 the southern part had been administrated by an American military government. For a good understanding of the country's economic development some remarks on the pre-1948 period are in order.

Before the "opening up" to the outside world that started in 1876, some cottage industry existed in Korea, such as brewing, metal working and cabinet making or producing such basic consumer goods as textiles, ceramics and paper (Brown). The industrial base broadened after 1876 and even before annexation by Japan a(n) (American built) power station existed, a match factory had started (by the Russians) and the government established a modern cocoonery and industrial training centre (Kuznets).

After annexation by Japan in 1910, Korea's industrialisation accelerated. Manufacturing's share of all commodity output was no more than 6.7 per cent around 1910, but reached 29 per cent around 1940(!). Manufacturing production increased by a factor 17 (Kuznets). Until the 1930s most was light industry with the majority of it located in the South.

After 1930, when the needs of the Japanese military increased rapidly, more heavy industry developed. Most of this heavy industry became located in the north where such resources as hydro-electric power, iron and coal deposits were more abundant. As a result, the balance of industry switched to the north. Chemical products (including fertiliser), rubber and paper, and textiles grew fast. Growth depended, in large part, on the Japanese. Virtually all capital equipment for the more modern establishments came from Japan and so did many technicians and engineers.

International trade also increased rapidly in these years. The trading volume increased by a factor of 10 between 1910 and 1940. The overall trade ratio was calculated as 53.3 per cent in 1939-41, and as much as 63 per cent of total manufacturing production was exported in 1940; 95 per cent of this went to the "Yen block", i.e. Japan, Manchuria and the Japanese controlled parts of China (Kusnets and Brown).

When Japanese rule ended in 1945, the South Korean economy was much less strong than its earlier history might have led to believe.

> "The collapse of the Japanese economy, of which it had been a fully integral part, meant a loss of vital spare parts and other imports, as well as a loss of markets. The separation from the complementary coal, electricity, fertilizer and heavy industry of the North was another blow. Deterioration of industry through war-time cannibalization, heavy use, and inadequate maintenance was a third major factor, and the lack of experience in operating their own economy and government a fourth." (Brown, p. 30).

Output, including manufacturing output was very low in the first years after liberalisation. Gradually, however, and with considerable help from the United States, the economy recovered. By 1948 industry produced shoes, textiles, rubber tyres, basic steel shapes and such engineering products as pumps, bicycles, tin cans and ball bearings (Westphal). The years 1948 to 1950 were in fact characterised by considerable economic growth.

The damage done by the war (1950-53) was considerable. The physical damage to property has been estimated as the equivalent of the Republic of Korea's 1953 GNP, "or more than ten times the annual rate of fixed capital investment" (Brown, p. 35). "It took until 1957 before per capita income levels returned to or exceeded their pre-Korean war levels." (Brown, p. 36).

United States aid greatly contributed to the recovery. A total of US$2,080 million poured into the Republic of Korea[1] (Michell). Much of this was not very effectively used however as it came in the form of either non-essential consumer goods or as United States agricultural surplus items which depressed domestic agriculture rather than as capital which could be used to redevelop the country.[2]

Economic growth after the war was considerable (see table 22). GDP grew by 5.5 per cent between 1954 and 1958. Growth of agriculture, still the dominant sector, was relatively slow at 4.0 per cent per year. The land reform had been completed, but government's restrictive policies kept farm

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[1] Compared with an estimated US$6,000 million damage

[2] "Whilst the Koreans were concerned with reconstructing the economy, and with balancing the budget, the Americans were interested in pushing United States surplus items and bolstering up the country against communism." (Michell, p. 37).

Table 22. Republic of Korea: Growth rate of GNP by sector, 1954-82

Sector	1954-58	1959-62	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Agriculture, forestry and fishing	4.0	0.8	9.5	15.6	-1.0	11.6	-5.9	1.8	10.5	-1.4	3.7	2.0	6.8	6.7	5.3	10.7	2.1	-4.0	6.7	-22.0	22.0	4.5
Industry	15.1	9.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mining and quarrying	-	-	5.3	13.4	7.7	4.8	11.4	-1.5	-1.4	16.6	1.1	-1.2	18.9	6.1	12.3	2.4	11.8	4.3	-2.0	-1.0	8.7	-2.6
Manufacturing	-	-	16.1	9.9	20.5	17.3	21.6	27.2	21.6	19.9	18.8	14.0	29.2	15.8	12.6	22.6	14.4	20.7	9.8	-1.1	7.1	3.9
Construction	-	-	18.3	7.6	24.6	20.9	19.3	38.5	37.6	5.0	-2.2	-1.1	28.2	2.6	13.9	12.3	25.2	25.3	1.7	-0.8	-5.9	20.7
Services[1]	-	-	7.5	3.5	9.7	13.0	14.6	15.3	14.2	9.5	9.8	5.0	13.6	5.0	5.1	13.7	11.9	13.5	4.1	-3.4	0.6	7.0
Total	5.5	3.6	9.1	9.6	5.8	12.7	6.6	11.3	13.8	7.6	9.4	5.8	14.9	8.0	7.1	15.1	10.3	11.6	6.4	-6.2	6.4	5.4

[1] Includes construction.

Sources. For 1954-58, 1959-62: Cole and Lyman (1971) (1965 constant market prices).
For later years: EPB (1983) (1975 constant market prices).

prices low and peasants from investing in their own land. Manufacturing grew fast. Manufacturing and mining growth together were as high as 15.1 per cent per year between 1954 and 1958. Inflation was around 30 per cent on average in these years.

The slowdown of economic growth in the late 1950s (it was 3.6 per cent between 1959 and 1962) has been explained by a combination of factors: the dismissal (in 1958) of the government team that co-ordinated the economic recovery; growing unrest and repression; the announcement by the United States government that it wanted to phase out its aid; and the stabilisation policy that reduced aggregate demand.

Post-1962 economic growth was very fast. It is common to contrast this fantastic growth with the previous slow growth years. But, as the previous paragraphs showed, one must be careful not to paint these years in too dark colours. It is true that in the "transition" period (1959-62) economic growth was comparatively low, but industry still managed to grow at 9.4 per cent per annum in these years.

From 1962 to 1978 the economy grew at an average rate of 10 per cent per year in real terms. Growth was high but irregular and peaks of 14.9 per cent (1973) and 15.1 per cent (1976) occurred followed or preceeded by "troughs" of 5.8 per cent (1972). To some extent this was the result of developments in the agricultural sector, the yearly growth of which varied between -5.9 per cent (1967) and +15.6 per cent (1964).

The relatively "slow" growth between 1970 and 1972 ($\pm$7.5 per cent average per year) was, however, largely policy-induced. After two years of very rapid growth (11.3 per cent in 1968 and 13.8 per cent in 1969), the economy threatened to become overheated. In the late 1960s, the money supply had increased by 46 per cent in 1969 and the current account deficit jumped from US$191 million to US$440 million in 1968 (or 8.4 per cent of GDP) and to US$622 million in 1970 (EPB). The government then took a set of restrictive monetary and fiscal policies and measures to reduce foreign capital inflows (Kuznets). The 1972 and 1973 current account deficits were only 3.6 per cent and 2.3 per cent respectively (EPB).

The Republic of Korea weathered the first oil crisis quite well. The value of oil imports tripled between 1973 and 1974, but a strict conservation programme that was implemented with only a short delay kept the 1974 volume of oil imports at the 1973 level. The 1975 import volume was only 11 per cent over the 1973 level, which is remarkable considering that manufacturing output was nearly 30 per cent higher.

To be sure, the Republic of Korea's current deficit widened from US$300 million in 1973 to US$2,000 million (or 11.2 per cent of GDP) in 1974 but a rapid export drive brought the deficit back to its 1973 level in 1976 (when it was 1.1 per cent). Receipts of invisibles, which increased by a factor five between 1975 and 1979, and which were in large part due to the many construction contracts that were awarded to Republic of Korean firms in the Middle East, also contributed to this improvement of the balance of payments.

Meanwhile, the country had to finance these current account deficits by increased borrowing abroad, and its foreign debt increased to a level such that it is now one of the biggest developing country debtors in the world. The reason why this has not translated into a debt crisis as in the Latin American countries are basically twofold:

First, its debt structure was more favourable. The large inflow of foreign loans in the late 1960s[1] had quickly worsened the debt service ratio. This had made the country aware of the importance of having a sound debt structure.[2] Whilst other countries' vulnerabilitry to higher interest rates was greatly enhanced by the relatively short maturity of their outstanding debt, the Republic of Korea had a fairly long debt maturity in the

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[1] Commercial lending had become an important feature of the Republic of Korea's development financing in the 1960s. Foreign loans were particularly attractive after the 1965 interest rate reforms, when rates on domestic loans became considerably higher than those on foreign loans. When allowing for domestic inflation and the effect of devaluations, Frank, Kim and Westphal (p. 116) found that interest rates on foreign loans were negative for domestic borrowers between 1965 and 1969.

[2] Foreign loans increased tenfold between 1964 and 1969. Many of these were short-term supplier credits. This led to a rapidly worsening structure of the foreign debt. The cost of debt servicing increased rapidly (and reached 19-20 per cent of export earnings between 1970 and 1972). Alarmed by these figures the government decided to limit the approvals of short-term maturity loans.

latter 1970s. The average maturity of its debt had even marginally improved from less than 12 years in 1974 to 13 years in 1977[1] (IBRD, 1979).

Second, higher debt servicing costs were met by very high growth of export earnings, and this kept the debt service ratio within reasonable bounds. The ratio to visible exports increased from 11.2 per cent in 1975 to 12.1 per cent in 1980 and 14.2 per cent in 1982. The ratio to all export earnings remained virtually the same during that period (at 10.5 per cent) (EPB).

In 1979 GDP growth slowed down to 6.4 per cent. In that year the economy was put under pressure by the second oil price shock. Moreover, in that year the architect of the Republic of Korea's rapid growth, President Park, was murdered. It took a year before a new stable government was installed. In 1980 economic growth was negative (-6.2 per cent), but in the following two years it recovered to a moderate 6 per cent increase each year.

Altogether GNP went up from US$2,700 million in 1963 to US$65,000 million in 1982. In per capita terms, the increase was from US$100 - in 1963 to US$1,546 in 1979, and US$1,678 in 1982 (current prices).

Inflation has, on average, been well over 10 per cent per annum. The all-cities consumer price index which fluctuated between 10 and 15 per cent in the 1966-72 period, dropped to 3.1 per cent in 1973. It jumped to the 24-25 per cent range for the years 1974-75 but declined thereafter only to jump to 28.7 per cent in 1980. It slowed down to 7.2 per cent in 1982 (EPB).

The exchange rate of the won with the dollar was periodically adjusted after 1964. In the later 1950s when the won had grown increasingly overvalued, the allocation of foreign exchange to importers took place through a complicated system of government auctions (Brown). This changed however in 1961. Between January (civilian government) and June (military government) a

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[1] The country's good credit rating (and thus low margins) was another favourable factor. In a sense one could say that the Republic of Korea had "its debt crisis" ten years before the other major debtors had it. It was lucky in that it occurred at a time of high world trade growth, low protectionism and, above all, low interest rates. It made the country well aware of the dangers of a badly structured and uncontrolled foreign debt.

number of devaluations led to an exchange rate of 130 won to US$1. In May 1964 the won was devalued to 256 won to the dollar. From 1965 to 1974 the exchange rate was allowed to devalue gradually to maintain purchasing power parity. From 1974 to 1979 the exchange rate was pegged at 484 won to the dollar. Thereafter devaluations were resumed.

Sectoral growth: Manufacturing (in Korean statistics often combined with mining) was by far the most buoyant sector in the economy. In no year between 1963 and 1978 was its yearly growth less than 10 per cent(!). In many it was over 20: 27.2 per cent (1968), 29.2 per cent (1973) and 22.6 per cent (1976). Agricultural growth was much slower and showed considerable yearly variations.

Changes in the structure of the economy have above all taken place between agriculture and manufacturing and within the tertiary sector. The latter's share of GDP remained between 40 and 50 per cent between 1960 and 1981. Agriculture saw its share decline from 46.1 per cent in 1962 to 19.6 per cent in 1981. Manufacturing share increased in the same period from 7.8 per cent in 1962 to 30.0 per cent in 1980 (see table 23).

Table 23. Republic of Korea: Structure of GNP by sector, 1953-81

Sector	1953-55	1962	1965	1970	1975	1980	1981
Agriculture, forestry fishing	50.4	46.1	45.8	33.0	27.0	17.3	19.6
Industry	10.6						
Mining and quarrying)	6.8	2.2	2.3	1.9	1.7	1.4	1.4
Manufacturing)		7.8	9.5	15.6	23.0	30.0	29.9
Construction	1.9	2.8	3.5	5.2	5.3	6.8	6.0
Services[1]	39.0	43.9	42.5	49.5	48.2	51.4	49.1

[1] Includes construction, except for 1953-55.

Sources. For 1953-55: Kuznets (1977) from BOK: Economic Statistics Yearbook, 1973 (based on 1970 constant factor costs); for later years: EPB (1983) (1975 constant factor costs).

Table 24 gives sectoral employment data. Agriculture showed a constant decline but in 1980 still a third of the labour force worked there. Manufacturing employment grew rapidly. In the 1960s, those manufactured products that showed the most rapid export growth were among the country's most labour-intensive manufactures (Kuznets, p. 120). In the 1970s employment creation in manufacturing was also fast. The number and the share of people working in construction showed a virtually constant increase. Many of these construction workers are engaged in large projects abroad, mainly in the Arab oil-producing countries.

Table 24. Republic of Korea: Percentage distribution of persons employed by industry, 1963-82 (selected years)

Sector	1963	1965	1970	1975	1980	1981	1982
Agriculture, forestry fishing	63.1	58.6	50.4	45.9	34.0	34.2	32.1
Industry[1]	8.7	10.3	14.3	19.1	22.6	21.3	21.9
Mining and quarrying	0.7	0.9	1.1	0.5	0.9	0.9	0.8
Manufacturing	8.0	9.4	13.2	18.6	21.7	20.4	21.1
Construction	2.5	2.9	2.9	4.3	6.1	6.2	5.8
Services	25.6	28.1	32.3	30.7	37.3	38.2	40.3

1 Excluding construction.

Source. EPB (1983).

In the early 1960s output and exports of such labour-intensive manufactured products as textiles, clothing, footwear, plywood and wigs rose very fast. As international trade became more important, the relative importance of traditional industries producing for the domestic market declined.

In the 1970s, "heavy" industry gained steadily in importance compared to "light" industry. In terms of value-added its share went up from 18.7 per cent in 1960 to 55.0 per cent in 1982. Motor vehicles and shipbuilding developed fast in the second half of the 1970s and so did iron and steel and

Table 25. Republic of Korea: Manufacturing production growth rates, 1963-82

Sector	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Food, beverage and tobacco	4.9	-10.3	13.5	17.4	25.8	22.4	22.8	11.6	21.1	13.5	11.3	6.3	8.9	20.3	24.3	21.1	17.7	-1.9	4.9	7.4
Textiles, wearing apparel and leather	3.3	12.9	17.1	19.5	28.6	39.7	28.4	20.4	25.0	35.9	40.3	16.0	35.6	33.9	10.5	17.1	5.1	7.6	16.4	0.5
Wood and wood products, including furniture	19.5	-18.4	6.7	37.5	77.3	50.6	3.4	9.9	13.1	13.1	18.3	-11.3	13.5	30.3	14.8	18.8	-4.8	-27.4	12.0	7.3
Paper and paper products, printing and publishing	14.4	11.7	11.3	18.1	9.8	45.3	1.2	1.9	16.8	9.9	18.6	15.9	3.6	18.8	18.6	16.8	13.2	9.6	8.5	2.6
Chemicals, petroleum, coal, rubber and plastic products	18.2	19.2	-1.6	24.6	43.4	47.7	19.9	21.2	12.0	8.0	25.4	11.5	15.2	27.9	23.0	21.9	14.8	-0.3	2.5	3.3
Non-metallic mineral products	7.5	38.4	34.5	20.0	20.8	13.4	21.3	-2.2	17.6	-0.8	35.4	9.3	-	15.6	26.8	15.7	10.2	-0.7	0.3	6.7
Basic metals	36.8	-19.2	23.8	42.3	2.7	63.2	21.0	5.3	8.9	19.8	51.5	83.3	9.4	41.5	21.9	32.4	29.4	8.1	32.3	7.3
Fabricated metal products, machinery and equipment	20.0	-	4.2	40.0	28.6	26.7	24.6	2.8	13.7	10.8	84.8	85.9	22.8	51.5	26.5	41.0	11.7	-14.7	26.2	8.0
Miscellaneous	48.5	-23.1	5.2	-3.1	21.2	22.8	43.5	21.3	-12.4	29.7	18.1	17.2	21.7	24.1	21.8	-15.1	-3.3	4.3	3.2	1.9
All items	14.3	6.3	7.8	23.6	30.9	36.0	20.7	11.6	16.6	16.3	35.7	29.0	19.6	31.7	20.3	23.8	12.1	-1.9	13.5	5.0

Source. EPB (1983).

Table 26. Republic of Korea: Composition of gross manufacturing output, 1961-82

Sector	1961	1966	1971	1975	1980	1981	1982
Textiles, clothing, footwear	28.5	23.9	25.6	32.1	17.9	13.2	14.0
Food, beverages and tobacco	33.8	27.6	25.0	17.0	13.7	17.7	16.4
Various light manufactures[1]	15.4	17.9	16.0	15.3	-	-	-
Wood and wood products					2.4	2.1	2.0
Paper and paper products					3.8	3.8	3.9
Machinery and equipment[2]	7.9	10.2	9.3	14.6	19.1	21.0	22.4
Chemicals, coals and petroleum	7.1	11.6	15.5	12.0	27.7	27.1	26.2
Non-metallic mineral products	-	-	-	-	4.4	3.8	3.8
Basic metals and metal products	5.8	7.0	6.1	6.7	9.3	9.6	9.5
Miscellaneous	1.5	1.9	2.5	2.5	0.6	1.6	1.5
Total (in billions of won)	393.5 100.0	789.3 100.0	2 041.7 100.0	4 290.9 100.0	36 279.0 100.0	46 717.4 100.0	51 648.9 100.0

[1] Includes wood and wood products, furniture, paper and paper products, printing, leather and rubber products, clay, glass and stone and plastic products.

[2] Includes electronics and transport equipment.

Sources. For 1961-75: Hasan and Rao (1979), p. 21 from: Bank of Korea: National income in Korea, 1975, pp. 202-203; for later years: Korean Statistical Yearbook, 1984.

basic metals. Motor vehicles showed a spectacular increase (from 85,000 to 205,000 units) between 1977 and 1979, but was hard hit by the 1980 recession. In shipbuilding the country has become the second most important world producer.

Despite the shift towards heavy industry, the textiles and clothing industry has remained an important production and export sector over the years. In 1975 it still accounted for nearly 32 per cent of value added. And in 1978 nearly one third of the manufacturing labour force worked there.

In that year two sectors employed nearly 60 per cent of total manufacturing employment: textiles, garments, leather and footwear (the share of which had hardly decreased since 1961 when it was 35.4 per cent) and metal products that includes such fast growing sectors as electronics, automobiles and shipbuilding and where employment has gone up from 12.5 per cent of total in 1961 to 26.9 per cent in 1978 (tables 25, 26 and 27).

Table 27. Republic of Korea: Manufacturing labour force by sectors, 1960-79[1]

Sector	1960	1965	1970	1975	1977	1978	1979
Food and beverages	16.1	15.6	13.6	10.6	8.8	8.4	9.4
Textile, weaving	35.4	36.8	31.1	35.5	30.2	32.8	24.2
Wood and wood products	6.0	4.1	5.2	3.6	3.6	3.7	3.4
Paper and paper products	7.4	6.5	5.7	4.9	4.4	4.1	5.5
Chemicals, rubber and plastics	12.1	13.8	11.8	12.8	12 4	10.6	13.5
Non-metalic mineral products	6.0	6.8	5.8	4.2	4.0	4.4	5.3
Basic metal industry	2.5	3.4	3.6	3.3	3.7	3.9	5.7
Fabricated metal	12.5	14.7	17.4	20.8	24.4	26.9	30.1
Miscellaneous	2.2	2.6	5.6	4.0	4.2	3.6	2.6

[1] Employed in enterprises with over five employees.

Source. Michell (1984), p. 74, from Mining and Manufacturing Surveys and Census.

International trade: In the 1950s the Republic of Korea's participation in foreign trade had been relatively small. Exports and imports as a percentage of GNP was 12 per cent in 1953-55, and 13 per cent in 1960-62. Before 1963, sales to the United Nations forces stationed in the Republic of Korea accounted for most of its "exports". After 1963 merchandise exports grew rapidly, but as late as 1968 military transactions still accounted for 25 per cent of total export earnings of goods and services (Cole and Lyman).

The Republic of Korea also benefited from the Viet Nam war through exports of goods and services (e.g. construction). These increased when a large Republic of Korean military force went there. Nevertheless total receipts from Viet Nam seem never to have exceeded 20 per cent of current account receipts between 1967 and 1971 (Cole and Lyman; Kuznets).[1]

Exports grew in a spectacular manner in the 1960s and 1970s. They made up 5 per cent of GNP in 1962, 10 per cent in 1966, 15 per cent in 1971. After 1973 they were around 30-35 per cent. Starting from a low base (US$86.8 million) in 1963, the yearly increases in the country's exports until 1978 were rarely less than 20 per cent, and in some years (1963, 1972, 1976) they were over 50 per cent! In 1973 the dollar value of exports was nearly double that of the year before (EPB, 1983).

Although the Republic of Korea has always had a deficit on its trade balance, import growth has been slightly less high than export growth. That is because in the early 1960s the country started with a huge trade deficit. In 1963 exports were US$86.8 million against imports of US$560.3 million.

Most exports are manufactures. The country has few mineral resources and not much agricultural land. By 1963, 52 per cent of exports consisted of manufactures. After 1963 the share of manufactures in exports went up quickly. Since the early 1970s it has been around 90 per cent of total exports (EPB).

Until 1961 such raw materials as basic ores, iron ore, fish and raw silk headed the list of main export products. Soon thereafter these were overtaken

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[1] "Korea benefited much less from the Viet Nam war than did Japan from the Korean war." (Kuznets, p. 71).

by such products as plywood, clothing, footwear and textiles. Clothing has remained over the years the most important single export item, and even in 1980 it accounted for about 20 per cent of all exports. After 1968 the capital intensity of manufactured exports increased. In the 1970s telecommunications, electrical machinery, cement, textiles, chemicals, ships and boats, iron and steel pipes, became other important export items (table 28).

In the 1960s Japan and the United States were the Republic of Korea's main markets. Until 1973 they consumed together between 60-70 per cent of its exports. In the late 1970s their share declined. It was no more than 43 per cent in 1981 (table 29).

In that period the European market became more important (10 per cent in 1972 to 18.6 per cent in 1979). In more recent years developing countries have also become important markets: together they bought 22 per cent of total exports in 1979, and increased this share to 36.7 per cent in 1981(!) (Michell).

Import composition is presented in table 30 and main suppliers in table 31. In imports too, the country has become less dependent on the United States and Japan. Higher costs of imported oil have made it into the main import category (30 per cent of the total) and the Middle East an important supplier.

Brazil

Until well into the twentieth century Brazil's economy was mainly based on the production and export of primary products, the most important ones being sugar, gold and coffee. As late as 1980 the majority of its exports were primary products in raw or semi-processed form.

Industrialisation in Brazil started late in the nineteenth century. Industry produced textiles and food products, as well as spare parts for the coffee sector. Some of these industries were locally owned, some foreign-owned, mainly British. The latter also invested in infrastructure such as railroads and power stations. Most industry developed in the southern

Table 28. Republic of Korea: Exports by principal commodity, 1961-80 (selected items)

Commodity	1961	1966	1971	1976	1980
Iron and basic ores	22.8	6.5	1.1	-	-
Fish	10.1	4.4	3.2	3.5	3.5
Vegetables	6.5	3.3	0.9	-	-
Raw silk	8.8	4.6	3.6	-	-
Yarn and thread	-	11.9	3.3	3.8	3.5
Plywood	3.4	12.0	11.9	4.4	2.0
Clothing	-	13.2	18.5	23.9	16.3
Synthetic fabrics	-	6.7	-	5.6	5.7
Electrical machinery	-	-	4.5	5.2	4.0
Footwear	-	2.2	3.4	6.4	5.0
Telecommunications	-	1.3	1.0	3.9	5.7
Ships	-	-	-	3.5	3.5
Cotton fabrics	2.0	3.0	2.9	-	-
Sheet iron and steel	-	2.0	1.8	2.0	3.2
Sub-total	53.6	71.5	56.1	62.2	46.7
Total (US$000 mln)	38.8 100.0	250.3 100.0	1 067.6 100.0	7 715.3 100.0	17 504.9 100.0

Source. Michell (1984), from UNCTAD (own calculations).

Table 29. Republic of Korea: Exports by country of destination, 1955-81

Country	1955	1960-62	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
North America			45.4	54.8	52.6	45.1	52.6	50.4	35.6	37.2	34.3	36.5	34.5	34.8	31.7	28.4	29.0
United States	41.1	17.4	42.9	51.7	50.1	46.8	49.9	46.7	31.7	33.5	30.3	32.4	31.2	32.1	29.2	26.4	26.7
Latin America			0.2	0.3	0.9	0.5	0.8	0.8	1.6	1.9	0.9	0.7	1.1	2.7	3.3	2.7	3.7
Asia			38.0	32.0	32.2	36.3	33.7	36.4	48.9	42.6	40.6	41.2	42.3	41.1	42.7	41.4	39.3
Japan	40.6	49.1	26.5	21.9	21.4	28.1	24.5	25.1	38.5	30.9	25.4	23.4	21.2	20.6	22.3	17.3	16.5
Europe			10.4	8.0	8.9	9.1	8.2	10.1	11.7	13.7	18.2	17.4	17.4	18.3	18.6	17.6	15.8
EEC (10)			7.5	6.3	7.2	7.8	7.0	9.2	10.7	12.4	15.0	15.0	14.0	14.8	15.8	15.0	12.7
USSR and Eastern Europe			-	-	0.0	0.0	-	-	-	0.0	0.1	0.1	0.1	0.0	0.0	0.1	-
Africa			2.7	2.7	2.0	2.1	2.7	1.2	1.0	2.0	3.9	2.7	2.9	2.6	3.4	4.3	6.0
Others	18.3	33.5	3.5	2.2	3.4	2.9	2.0	1.1	1.2	2.6	2.1	1.4	1.7	0.5	0.3	5.5	6.2
World	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources. For 1955, 1960-62: Kuznets (1977), from BOK: Economic Statistical Yearbooks.
For later years: Yearbook of International Trade Statistics, Vol. I, 1976, 1981).

Table 30. Republic of Korea: Imports by commodity group, 1963-82 (percentages)

Category	1963	1967	1972	1977	1981	1982
Food and livestock	21.5	9.4	14.1	6.6	6.4	6.4
Beverages and tobacco	0.1	0.1	0.3	0.3	0.2	0.0
Crude materials inedible, except fuels	19.1	20.8	18.0	18.0	13.9	13.9
Mineral fuels, lubricants and related material	6.1	6.1	8.6	20.2	29.8	31.3
Animal and vegetable oils and fats	0.7	0.7	0.8	0.7	0.5	0.5
Chemicals	14.2	11.3	8.8	9.2	7.8	8.4
Manufactured goods classified by material	15.7	18.4	15.7	15.0	10.6	10.8
Machinery and transport equipment	20.5	31.1	30.2	27.3	23.1	24.8
Miscellaneous goods	1.4	1.7	3.2	3.3	2.9	3.2
Not classifiable	2.0	0.0	0.0	0.1	0.5	0.4
Total (in US$ 000s)	560 273 100.0	996 246 100.0	2 522 002 100.0	10 810 539 100.0	26 131 432 100.0	24 250 834 100.0

Source. EPB (1983).

Table 31. Republic of Korea: Imports by country of origin, 1958-81

Country	1958	1960-62	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
North America	55.3	46.0	31.5	31.7	30.3	30.6	30.0	27.1	30.3	26.6	27.9	23.7	24.0	21.7	24.3	23.6	25.2
United States			30.6	30.8	29.1	29.5	28.3	25.7	28.3	24.9	25.9	22.4	22.6	20.3	22.6	21.9	23.2
Latin America			0.4	0.5	0.4	0.3	0.5	0.3	0.3	2.1	0.7	1.9	0.8	1.2	1.4	1.7	2.8
Asia			57.6	56.0	56.3	56.8	56.5	58.5	57.9	61.2	59.2	61.4	62.4	61.9	57.1	58.1	54.0
Japan	13.2	23.0	44.5	42.5	41.4	40.8	39.8	40.9	40.7	38.3	33.4	35.3	36.3	40.0	32.7	26.2	24.4
Europe			8.5	10.4	11.9	11.0	10.9	11.1	8.3	6.6	8.3	9.0	9.0	10.9	12.4	8.4	9.4
EEC (10)			6.8	9.4	10.5	10.5	10.6	10.4	7.1	5.0	7.5	7.7	7.5	9.3	10.5	7.1	7.4
USSR and Eastern Europe			-	-	-	-	-	-	-	0.0	0.0	0.0	0.0	0.1	0.1	0.0	-
Africa			0.9	0.1	0.2	0.3	0.3	0.5	0.5	0.5	0.6	0.8	0.7	0.5	1.1	0.5	0.8
Others	31.5	31.0	1.1	1.3	0.9	1.0	1.8	2.5	2.7	3.0	3.3	3.2	3.1	3.8	3.7	7.7	7.8
World	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources. For 1958, 1960-62: Kuznets (1977), from BOK: Economic Statistical Yearbook.
For later years: Yearbook of International Trade Statistics, Vol. I, 1976, 1981.

part of the country that thanks to coffee and other crops was already the most prosperous region.[1]

Industrialisation accelerated after 1930. In the early 1930s depressed overseas demand resulted in a disastrous situation for coffee, the country's main export crop. A devaluation aimed at reducing the internal repercussions of the coffee crisis also made imports more expensive and encouraged further domestic industrialisation. Metal products, cement and chemicals showed dynamic growth.

Economic and industrial growth were further encouraged by the development-oriented policies of Getúlio Vargas. His strong central rule reduced the power of individual states. Tariffs on inter-state trade were abolished and this contributed to a greater economic integration of the country. Government investments supported industry. In 1941 the state-owned Volta Redonda integrated steel works were inaugurated.

Strong overseas demand during the Second World War affected Brazil's industry in two ways. First, it encouraged exports, including industrial exports. Second, strong demand abroad reduced supply available for Brazil and thus encouraged import substitution.

The end of the war had the opposite effect. Lower overseas demand and abundant supply of imports led to balance of payment problems. In response, government adopted a more protectionist attitude. Rather than devaluing the cruzeiro, a licensing system was introduced in 1947, and in 1949 the "Law of Similars" was enacted which prohibited imports for which a domestic substitute existed (Robock).

All in all, Brazil entered the 1950s with already a sizeable manufacturing sector. In 1949, 20 per cent of the national product originated in manufacturing (Carvalho and Haddad, p. 33).

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[1] If anything, this concentration of economic activity in the south grew thereafter. In 1970, no less than 58 per cent of total value added was produced in the State of São Paulo, 16 per cent in Rio de Janeiro and 6 per cent in the State of Minas Gerais. Only 20 per cent of total value added in manufacturing was produced outside these three states (Robock).

The end of the Korean War boom also caused balance of payments problems, and this led to more protection. A multiple exchange rate and a tariff system were introduced. Manufactures became particularly well protected.

In the second half of the 1950s government participation in the economy increased rapidly. The state invested heavily in infrastructure, such as electric power, roads and other transport. The construction of the new capital, Brasilia, was started. Public investments increased their share of the total from 25 per cent in the early 1950s to over 35 per cent in the second half of the decade.[1] Their share of GNP rose from 15.4 per cent in 1948 to 21 per cent in 1962 (Morley).

The economy grew fast in the 1950s. GDP increased by 9 per cent and industrial output by 10 per cent. "Modern" capital-intensive sectors such as steel, automobiles, chemicals and electrical machinery, with their high participation of multinationals were among the fastest growers.

However, some serious imbalances also developed. The balance of payments showed a widening gap. The protectionist policies had not reduced the value of imports as much as expected. Imports of final products decreased but as a result of rapid economic growth those of intermediate and capital goods increased. Exports were discouraged by the overvalued exchange rate and by the protectionist policies in general. The budget deficit also widened as growing government expenditure was not met by increased income.[2] This deficit was financed through printing money and by borrowing abroad. Inflation, which had been below 20 per cent in most years before 1958 accelerated and reached 47 per cent by 1962.

The government that came to power in 1960 attempted to reduce inflation, and push back the current account and budget deficits. However, faced with much opposition to its measures, it failed. Political instability and the more critical attitude of the government to foreign investment had moreover a negative effect on these investment flows. Inflation reached 90 per cent in 1964.

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[1] It went up from 23 per cent in 1953 to 39 per cent in 1961 (Luis Possas).

[2] The budget deficit reached the equivalent of 4.2 per cent of GNP in 1963 (Morley).

The military government that took over in March 1964 introduced its own stabilisation programme. Helped by a policy which greatly limited trade union power and worker rights, and at the cost of lower growth (3.4 per cent between 1962 and 1967) it managed to reduce inflation to 27 per cent by 1967. The current account deficit was eliminated. Simultaneously protection and the bias against exports were reduced. "After 1964, exchange premiums and advance deposits were eliminated or reduced, tariffs were lowered (1967), and a crawling peg system was adopted." (Carvalho and Haddad, p. 37). Specific incentives to encourage exports were also introduced.

In 1967 government adopted a more expansionary policy. It stated that a moderate inflation rate would be tolerated. Helped no doubt by the very favourable external environment and by considerable over-capacity of domestic industry, economic growth accelerated. It reached an average of 8.5 per cent per year between 1965 and 1980 (table 32). In 1980 real GDP was triple its 1965 value. Per capita income that had grown at 5.5 per cent per year, was double its 1965 value in 1980.

The years 1968-73 saw particularly high economic growth (10.1 per cent per annum). Industrial growth reached 12.9 per cent per year in this period. Interestingly inflation declined from 28.3 per cent in 1968 to 15.1 per cent in 1973! (Carvalho and Haddad). Manufactured exports grew at around 42 per cent per year from US$163 million in 1967 to about US$1,900 million in 1974 (Bergsman) and as a percentage of manufactured output they increased from 5 per cent in 1968 to over 10 per cent in 1974 (ibid.).

The 1973 oil shock hit Brazil hard. The country imported about 80 per cent of its oil requirements. Inflation accelerated (it was near 30 per cent in 1974), but fear for worse kept the Government initially from passing the full effect of the international oil price rise to the domestic consumer.[1] At first the consumption and import volume was thus hardly affected and the

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[1] The generalised indexation system which exists in Brazil makes the country extremely vulnerable to such sudden price increases. The system which was set up for the correction of inflationary distortions is widely applied to the active and the passive side of the financial system, house rates and wages and salaries in the public and private sector.

Table 32. Brazil: Growth rates of GDP by sector, 1951-81

Year	GDP[1]	Agriculture[1]	Manufacturing[1] industry	Services
1951	6.0	0.7	6.4	-
1952	8.7	9.1	5.0	-
1953	2.5	0.2	8.7	-
1954	10.1	7.9	8.7	-
1955	6.9	7.7	10.6	-
1956	3.2	-2.4	6.9	-
1957	8.1	9.3	5.7	-
1958	7.7	2.0	16.2	-
1959	5.6	5.3	11.9	-
1960	9.7	4.9	5.4	-
1961	10.3	7.6	15.0	-
1962	5.3	5.5	7.8	-
1963	1.5	1.0	0.2	-
1964	2.9	1.3	5.2	-
1965	2.7	13.8	-4.7	-
1966	5.1	-14.6	9.9	5.0
1967	4.8	9.2	3.1	5.1
1968	9.3	4.5	13.3	11.3
1969	9.0	3.8	12.2	9.8
1970	8.8	1.0	10.4	9.4
1971	13.9	11.4	14.3	13.0
1972	11.7	4.1	13.4	12.0
1973	14.0	3.5	15.8	14.4
1974	9.8	8.5	9.8	9.9
1975	5.6	3.4	6.2	5.7
1976	9.0	4.2	10.7	8.8
1977	4.7	9.6	3.9	4.6
1978	6.0	-1.7	8.1	-
1979	6.4	3.2	6.9	-
1980	8.0	6.8	8.0	-
1981	-3.0	-	-9.0	-

[1] GDP, agriculture and industry growth rates for 1951-65 are derived from FGVs old scenarios.

Sources. For 1951-65 and GDP 1965-69, Carvalho and Haddad, p. 22, from Fundaçao Getúlio Vargas, Conjuntura Economica, various years. For 1966-69 and services 1970-77, World Bank: Economic Memorandum on Brazil, 1979, p. 72, from Fundaçao Getúlio Vargas, for 1970-81.

oil bill exploded.[1]

Imports doubled in value (in US$ terms) in 1974[2] but remained roughly at the same level until 1979 when the country was hit by the second oil price hike. Exports were at first slow to catch up, but high sugar and coffee prices and government encouragement of exports subsequently helped export growth and by 1977 the trade balance was in equilibrium (table 33). The current account deficits which for the years 1974-76 alone amounted to US$20 bn were largely financed by borrowing abroad. By 1976 the net foreign debt of US$19,400 million was three times as high as in 1973.[3]

The government did not react to the worsened BOP disequilibrium by deflating the economy.[4] Initially it responded by accelerating the import substitution process. New incentives and cheap credit were provided for the development of capital good industries (Tyler). After 1976 government was forced to take more deflationary action and was spending on these capital-intensive projects cut.

Thanks to overseas borrowing the economy could continue to grow at a relatively high rate of over 6 per cent between 1974 and 1980. Inflation, however, accelerated and reached 50 per cent in 1979 and 100 per cent in 1980.

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1 Initially the volume of oil imports increased by 4 per cent in 1975 and by 14.7 per cent in 1976 (table p. 45, Werneck). Later on the government took drastic measures to discourage oil consumption and to reduce oil imports. It closed petrol stations over the weekend, started the gasohol programme, etc.

2 The oil bill increased from US$1 to US$3.2 bn but that was only one third of the total increase. The cost of other raw materials - wheat, copper, chemicals, coal - nearly doubled (Cline in Cline).

3 The higher indebtedness after 1975 was at the time seen as quite acceptable as it was assumed that high growth would soon generate a trade surplus and that a new equilibrium in the foreign accounts - at a higher level of indebtedness - would be quickly attained. Worsening terms of trade, the second oil shock and above all higher interest rates, unfortunately proved the country wrong (Werneck).

4 This was no doubt, in part, for political reasons. Its poor showing at the 1974 elections had come quite unexpectedly.

Table 33. Brazil: Balance of payments, 1968-80 (US$ million)

	1968-73[1]	1973	1974	1975	1976	1977	1978	1979	1980
1. Trade balance	0	7	-4 690	-3 540	-2 255	97	-1 024	-2 840	-2 829
Exports (FOB)	3 338	6 199	7 951	8 670	10 128	12 120	12 659	15 244	20 182
Imports (FOB)	-3 338	-6 192	-12 641	-12 210	-12 383	-12 023	-13 683	-18 084	-22 962
2. Services balance	-992	-1 722	-2 433	-3 162	-3 763	-4 134	-5 062	-7 920	-10 212
Non-factor (net)	-576	-965	-1 533	-1 429	-1 574	-1 576	-1 805	-3 098	-3 591
Interest (net)	-289	-514	-652	-1 498	-1 810	-2 104	-2 696	-4 186	-6 311
Profits and dividends	-127	-243	-248	-235	-380	-455	-561	-636	-310
3. Transferences	20	-	1	2	4	-	71	18	155
4. Current account balance	-973	-1 715	-7 122	-6 700	-6 013	-4 037	-6 015	-10 742	-12 886
5. Capital balance	1 880	3 512	6 254	6 189	6 651	5 269	10 916	7 657	9 804
Direct investment (net)	299	940	887	892	962	810	1 071	1 491	1 146
Loans and financement[2]	2 333	4 495	6 961	5 933	7 761	8 424	13 811	11 228	11 070
Amortisations	-859	-1 672	-1 920	-2 172	-2 992	-4 060	-5 324	-6 385	-5 020
Others (net)	106	-251	326	1 536	920	96	1 358	1 323	2 608
6. Errors and omissions	139	382	-68	-439	554	-602	-639	130	-408
7. Surplus or deficit	1 046	2 179	-936	-950	1 192	630	4 262	-3 215	-3 490

1 Annual averages.

2 Long- and mid-term.

Source. Werneck (1984) (Banco Central do Brasil).

The 1979 oil price hike did not create such a wide gap in the trade balance as the previous one had done. The oil import volume went down immediately (by 13.1 per cent in 1980) and the value of exports increased fast (from US$15,200 million in 1979 to US$20,100 million in 1980). But by then the yearly interest payments had reached a level of US$6,000 million or ten times the amount of only six years earlier. In 1980 net interest payments (at US$6,300 million) were over twice the size of the deficit on the trade balance (table 34).

Sectoral growth: Industry has been the fastest growing sector of the decades between 1950 and 1980, but it is remarkable that agriculture also maintained reasonable, and sometimes more than reasonable growth. It grew by nearly 5 per cent per year between 1952 and 1973 (Carvalho and Haddad). Between 1972 and 1977 it was estimated at 5.6 per cent average per year. Werneck reports that the primary sector as a whole grew at a yearly average of 5.1 per cent betwen 1966 and 1980. In that period the manufacturing industry grew by 9.6 per cent on average. This sector which had grown by 9.5 per cent in the 1950s slowed to a yearly average of 2.8 per cent between 1962 and 1967 but grew by 13 per cent during the "miracle" years 1967-73. From 1975 to 1980 its growth was an average 6.5 per cent per year. Manufacturing contributes around 27 per cent to GDP (table 35).

Table 36 gives data on the structure of the economically active population. Industry and services have gained at the expense of agriculture but in 1980 many people (30 per cent of the total) were still employed in the primary sector. The fairly high growth rate of this sector and the constant pushing forward of the agricultural frontier have, no doubt, played an important role in this.

Manufacturing growth has taken place above all in sectors that are "modern" and capital-intensive, such as machinery, plastics and transport equipment. Intermediate and basic sectors such as chemicals and iron and steel also grew fast. Machinery, plastics, electrical and electrical goods, transport equipment, rubber, chemicals, perfumery and metals all grew at over 10 per cent average per annum between 1966 and 1980. Textiles and such labour-intensive sectors as clothing and footwear were among the slowest growing sectors (table 37). Steel production doubled between 1974 and 1980.

Table 34. Brazil: Foreign debt, 1947-80 (US$ million)

Year	Gross debt	International reserves	Net debt	Debt service			Debt service-exports ratio (%)	Net debt-exports ratio (%)	Annual growth rate (%)
				Amortisations	Net interest	Total			
1947-51	590								
1952-56	1 227								
1957-61	2 201								
1962-66	3 545								
1968	3 780	257	3 523	816	144	960	51	187	6.4
1969	4 403	656	3 747	1 068	182	1 250	54	163	9.6
1970	5 295	1 187	4 108	1 242	234	1 476	54	150	19.3
1971	6 622	1 723	4 899	1 283	302	1 685	58	169	10.0
1972	9 521	4 183	5 338	1 963	359	2 322	58	134	15.3
1973	12 572	6 415	6 156	2 063	514	2 577	42	99	93.2
1974	17 166	5 269	11 895	1 943	652	2 595	33	150	44.0
1975	21 171	4 040	17 131	2 168	1 498	3 666	42	198	13.5
1976	25 985	6 644	19 441	3 004	1 810	4 814	48	192	27.5
1977	32 037	7 256	24 781	4 123	2 103	6 226	51	204	27.6
1978	43 511	11 895	31 616	5 426	2 696	8 122	64	250	62.3
1979	49 904	9 689	40 215	6 527	4 186	10 713	70	264	16.7
1980	53 847	6 913	46 934	6 702	6 311	13 013	65	233	n.a.

Sources. For 1947-66: Tyler (1981), from John T. Donnelly: "External financing and short-term consequences of external debt servicing for Brazilian economic development, 1947-68", in The Journal of Developing Areas, Apr. 1973, Vol. 7, No. 3, p. 416.
For later years: Werneck (1984), from Banco Central do Brasil.

Table 35. Brazil: GDP by sector, 1949-82

Sector	1949	1959	1962	1967	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Agriculture	26.0	19.2	16.5	12.8	12.2	12.4	12.2	12.9	12.9	12.0	13.8	15.9	14.0	13.8	13.8	13.5	11.6
Industry	26.0	32.6	31.8	32.5	36.9	37.1	37.5	37.9	39.3	38.9	37.1	36.0	35.5	34.5	36.0	34.9	35.1
Manufacturing					28.2	28.4	28.9	29.3	30.2	29.5	28.6	27.6	27.5	27.4	28.6	27.5	27.1
Mining and quarrying					0.8	0.7	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.8
Construction					5.8	5.8	6.0	6.2	6.7	6.9	6.2	6.1	5.8	5.2	5.3	5.2	5.4
Industrial public utilities					2.1	2.2	1.9	1.7	1.8	1.8	1.6	1.6	1.5	1.2	1.5	1.4	1.8
Services[1]	48.0	48.2	51.7	54.7	50.8	50.5	50.2	49.3	47.8	49.0	49.0	47.8	50.5	51.7	50.8	51.6	53.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Minus the value of interbanking services.

Sources. For 1949-67: Morley (1982), based on net domestic product from National Accounts; for later years: Anuário Estatistico do Brasil, 1983.

Table 36. Brazil: Distribution of labour force by sector, 1950-80

Sector of activity	1950[1]		1960[1]		1970[1]		1980[2]		1950-60[1] growth (%)	1960-70[1] growth (%)	Average annual growth rate 1960-80 (%)
	000s	%	000s	%	000s	%	000s	%			
Primary sector	10 254	59.7	12 163	53.7	13 090	44.2	13 109	29.9	1.7	0.7	0.3
Agriculture	9 887	57.5	11 696	51.6	12 578	42.5				0.7	
Extraction	367	2.1	465	2.1	359	1.2				-2.5	
Secondary sector	2 347	13.6	2 963	13.1	5,295	17.9	10 674	24.4	2.3	6.0	6.7
Manufacturing	1 608	9.4	2 006	8.8	3 242	10.9	6 858	15.7	2.2	4.9	6.5
Construction	585	3.4	785	3.5	1 720	5.8	3 151	7.2	3.0	8.2	7.2
Energy	38	0.2	64	0.3	158	0.5	)	5.3	9.5		)
							) 665	1.5			) 6.1
Mining	116	0.7	108	0.5	175	0.6	)		-0.7	4.9	)
Tertiary sector	4 517	26.3	7 525	33.2	11 171	37.8	14 829	33.8	5.2	4.0	4.5
Transport[3]	697	4.0	1 089	4.8	1 244	4.2	1 816	4.1	4.6	1.3	3.1
Commerce	959	5.6	1 520	6.7	2 264	7.6	4 111	9.4	4.7	4.1	5.2
Social services	434	2.5	700	3.1	1 471	3.9	)		4.9	7.7	)
							) 7 090	16.2			) 4.3
Personal services	1 673	9.7	2 732	12.1	3 626	12.3	)		5.0	2.9	)
Government	513	3.0	662	2.9	1 152	3.9	1 812	4.1	2.6	5.7	4.8
Other activities	320	1.8	822	3.6	1 681	5.7	5 185[4]	11.9	-	5.6	7.0
Total working population	17 177	100.0	22 651		29 557		43 797	100.0	2.8	2.7	3.3

[1] Morley: source: 1950, 1960, 1970 Demographic censuses; 1968, 1973: IBGE (1975, 1978).

[2] Werneck: source: FIBGE: Anuário estatístico do Brasil (1982).

[3] Werneck category is called: transport and communications but includes less people than Morley's category.

[4] Werneck: includes "social activities", "economic activity supporting services", "badly defined and non-declared activities" and "people that were looking for work".

Table 37. Brazil: Growth rate of manufacturing sub-sectors, 1949-80

Sector	1949-62	1962-67	1968-74	1975-80	1966-80
Non-metallic minerals	8.3	2.5	13.3	7.8	9.8
Metallurgical	10.1	4.9	10.7	10.1	10.8
Machinery	10.5	-2.5	19.0	8.6	13.2
Electrical and electronic goods	27.5	9.8	18.7	7.1	12.2
Transportation goods	27.8	2.6	21.5	4.2	11.9
Paper and cardboard	7.7	7.4	6.7	8.2	7.7
Rubber	10.3	6.8	15.4	5.6	11.5
Chemicals	21.3	5.5	14.8	7.9	11.4
Perfumery	-	-	11.6	10.4	11.2
Plastics	-	-	19.8[1]	8.1	12.7[2]
Textiles	5.9	-4.5	7.1	4.3	4.3
Clothing and footwear	8.5	1.6	7.0	5.0	5.4
Food	6.5	1.5	8.6	5.0	6.9
Beverages	4.2	0.8	9.7	7.3	7.8
Tobacco	9.0	1.2	6.7	5.3	5.2
Total manufacturing	9.5	2.8	13.1	6.5	9.6

[1] 1971-74.

[2] 1971-80.

Sources. For 1949-67: Morley (1982), p. 31, from 1949-62, Morley and Smith (1971, p. 123); 1962-67: IBGE: Anuário Estatístico, 1972.
For later years: Werneck (1984), p. 41, from data in Bonelli and Werneck (1978) and in Anuário Estatístico do Brasil, 1981.

Such sectors as chemicals, steel and metal products have become the largest manufacturing sectors. More traditional labour-intensive sectors have declined in importance (table 38).

International trade: Brazil's participation in international trade was very limited until 1967. In that year the US dollar value of exports and imports was no more than 20 per cent higher than it was ten years earlier(!). After 1967 exports and imports both increased rapidly. Exports increased by 25 per cent per annum between 1967 and 1973. The combined value of exports and imports went up from US$3,300 million in 1967 to US$12,400 million in 1973 and US$43,000 million in 1980. Nevertheless as a per cent of output, exports and imports are still small. Exports, for example, were the equivalent of 6.6 per cent of GNP in 1970. They reached 7.7 per cent in 1973, but dropped to 5.9 per cent the next year. In the late 1970s they increased rapidly and reached 7.9 per cent in 1980 (and 9.3 per cent in 1981).

Exports grew by about 18.5 per cent per year between 1965 and 1980. Manufacturing exports grew even faster. They were very dynamic during the "miracle" years (1967-73) and in the late 1970s, when they increased by over 30 per cent per year (1977-80). In 1966 only 16.8 per cent of all exports were manufactures or semi-manufactures. By 1980 this had reached 56.5 per cent. The increase in manufactures' share took place not thanks to, but despite very rapid growth of certain agricultural exports, such as soy beans, sugar, and other primary exports such as iron ore.

Traditionally, Brazil exported only a small portion of its manufacturing output. The rapid export growth of the 1970s has changed this and by 1980 exports of manufactures were the equivalent of 12.5 per cent of manufacturing output.

Among manufactured exports the share of "traditional" sectors such as food and beverages has shown a steady decline and that of "modern" sectors such as machinery, electrical and transport equipment a steady increase. Table 39 gives the percentage distribution by broad sector. Unfortunately, such a broad categorisation does not bring out the spectacular rise of some narrower categories such as transport equipment that increased from US$69 million in 1972 to US$1,512 million in1980, or machinery, boilers and mechanical apparatus that went up from US$55 million to US$945 million in the same period.

Table 38. Brazil: Composition of manufacturing output, 1963-78[1]

	1963		1967		1973		1977		1978	
Food products		20.7		20.5		18.0		15.9		15.8
Beverages		2.3		2.2		1.6		1.2		1.2
Tobacco		1.1		1.2		0.8		0.8		0.8
Textiles		11.9		10.1		9.1		6.9		6.8
Wearing apparel and footwear		3.1		3.1		3.5		3.6		3.6
Leather and leather and fur		0.0		0.9		0.8		0.5		0.6
Wood products		2.3		1.8		2.7		1.8		1.8
Furniture		1.3		1.5		1.7		1.5		1.6
Paper and paper products		2.9		3.2		2.8		2.3		2.4
Printing and publishing		1.9		2.3		2.1		1.8		1.7
Industrial chemicals		14.2		16.1		15.2		18.2		18.0
Rubber products		1.9		1.9		1.5		1.5		1.7
Plastic products		[2]		1.4		1.9		1.9		2.0
Pottery, china	)									
Glass and glass products	)	4.0		4.3		3.4		4.1		4.1
Other non-metallic mineral products	)									
Iron and steel	)									
Non-ferrous products	)	11.3		9.9		12.?		13.5		13.4
Metal products except machinery	)									
Non-electrical machinery		2.6		3.9		7.2		7.8		8.0
Electrical machinery		5.2		5.4		4.9		5.1		5.4
Transport equipment		9.9		8.8		8.9		8.5		8.4
Professional goods	)	2.1		1.4		1.5		2.5		2.6
Other industries	)									
Total manufacturing (current new cruzeiros, millions)	6 965	100.0	38 043	100.0	318 145	100.0	1 736 500	100.0	2 596100	100.0

[1] In establishments with five persons or more engaged.

[2] Included in other industries.

Source. UNIDO: Yearbook of Industrial Statistics, 1971, 1976, 1982.

Table 39. Brazil: Structure of manufacturing exports, 1970-82

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1980
31 Food, beverages, tobacco	50.0	51.9	56.8	54.6	51.9	47.5	46.7	50.5	42.2	37.9
32 Textiles	7.2	8.4	12.4	14.5	13.5	13.1	14.4	12.3	12.5	10.8
33 Wood, wood products	10.8	8.4	5.6	5.2	3.6	2.8	2.6	2.3	2.3	2.7
34 Paper and paper products	0.8	1.5	1.7	1.9	1.8	1.5	1.4	1.2	1.9	3.8
35 Chemicals	5.8	5.3	4.6	4.8	5.9	6.4	4.3	4.6	6.0	9.0
36 Non-metallic minerals	1.1	1.3	0.8	0.7	0.7	0.9	0.8	0.7	0.9	1.1
37 Basic metal industries	10.5	4.2	4.4	3.7	3.8	4.0	4.9	4.3	6.2	6.9
38 Metal manufacturing	11.0	11.7	12.0	10.4	14.9	19.8	21.1	22.2	26.0	26.2
39 Other manufacturing industries	2.8	7.1	1.9	4.1	3.8	4.1	3.7	1.8	1.9	2.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source. Yearbook of International Trade Statistics (various years).

Table 40. Brazil: Exports by country of destination, 1967-81 (percentages)

Country	Average 1967-68	1970	Average 1972-73	1974	1976	1977	1978	1979	1980	1981
Europe:										
EFTA	5.3	-	5.2	3.7	-	4.6	4.0	3.3	3.2	2.3
Spain	1.9	-	3.5	-	-	4.0	2.3	2.1	2.6	1.6
EEC	32.6	35.3	35.7	34.2	30.7	32.1	29.5	29.6	26.6	25.5
COMECON	6.2	4.5	5.5	4.1	8.9	7.1	5.8	6.4	6.5	7.3
America:										
United States	33.2	24.7	20.7	21.5	17.9	17.7	22.7	19.3	17.4	17.6
Canada	-	1.5	-	-	1.3	1.2	1.2	1.3	1.2	1.2
Latin America	9.8	11.1	9.6	11.9	11.9	12.2	12.8	16.2	17.2	18.1
Africa	1.6	-	2.5	-	-	4.4	5.0	4.3	5.7	7.3
Asia and Oceania:	1.1	-	4.6	-	-	-	-	-	-	-
Middle East	1.0	1.0[1]	2.0	-	4.2[1]	2.7	2.8	3.4	5.2	5.4
Japan	3.3	5.3	5.7	5.7	6.3	5.7	5.1	5.8	6.1	5.2
Others	-	-	-	-	-	9.9	9.8	10.4	10.5	10.4
Others	4.0	-	5.0	-	-	3.8	3.6	3.3	3.6	3.0

[1] Data do not refer to Middle East but to OPEC, excluding Ecuador and Venezuela.

Sources. For 1967-68, 1972-73, 1974: Robock (1975) from Boletin do Banco Central do Brasil, Dec. 1974, pp. 144-151.
For 1970, 1976 and Japan: CEPAL (1981) (own computations from CACEX).
For 1977-81 (excluding Japan): Werneck (1984), from Correa do Lago, 1982.

The EEC and the United States are Brazil's main trading partners. But together they account for less than half of the value of total international trade. An interesting feature of Brazil's exports is that the developing countries have become progressively more important markets. Whereas in 1970, developing countries accounted for 17 per cent of all export destinations, in 1981 this percentage had gone up to 37 per cent (see table 40).

Rapid economic growth was also accompanied by a rapid rise in imports which increased by 23.8 per cent per year between 1965 and 1980. Capital goods were the most important item until 1973. The share of oil in total imports went up from 10 per cent in 1972 to 22.4 per cent in 1974, 33.9 per cent in 1977 and 44.4 per cent in 1980 (table 41).

Table 41. Brazil: Imports by commodity group, 1966-80

Year	Value (FOB)		Composition (%)			
	US$ million	Annual growth rate (%)	Capital goods	Intermediate goods		Consumer goods
				Oil and oil products	Raw materials	
1966	1 303	38.5	28.1	14.3	45.6	12.0
1967	1 441	10.6	31.9	11.9	41.2	15.0
1968	1 855	30.8	33.7	10.9	41.6	13.8
1969	1 993	7.4	37.0	11.6	38.4	14.0
1970	2 507	25.6	37.7	10.9	37.0	14.4
1971	3 245	29.4	41.3	10.3	40.5	7.9
1972	4 235	30.5	41.0	10.0	38.1	10.9
1973	6 192	46.2	34.6	11.7	42.1	11.6
1974	12 641	104.2	24.8	22.4	45.2	7.6
1975	12 210	-3.4	32.3	25.3	35.6	6.8
1976	12 347	1.1	28.7	31.2	33.7	6.4
1977	12 023	-2.6	25.8	33.9	32.5	7.8
1978	13 639	13.4	25.8	32.9	33.1	8.2
1979	18 084	32.6	20.9	37.5	32.9	8.7
1980	22 955	26.9	19.1	44.4	30.7	5.7

Source. Werneck (1984) (Banco Central do Brasil).

As with exports there is now more variety in the sources of Brazil's imports. Due to its high dependence on oil, Middle Eastern suppliers have come to take up a large share (table 42).

Table 42. Brazil: Imports by country of origin, 1969-82

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Africa	3.0	3.3	3.7	3.6	2.7	5.2	4.1	3.7	4.5	3.5	2.6	4.7	8.6	5.8
North America	31.8	34.7	31.4	30.1	30.4	27.6	26.6	25.1	22.1	23.9	20.3	22.5	19.0	17.5
United States	30.1	32.3	28.8	28.0	28.7	24.2	24.9	22.6	19.8	21.2	18.3	18.5	26.3	15.0
LAFTA	12.9	10.9	8.4	8.2	8.7	7.1	5.7	9.4	11.1	10.3	12.1	11.6	14.0	16.7
Argentina	6.9	6.0	3.6	4.6	4.9	2.7	1.9	3.4	3.8	4.0	5.0	3.4	2.6	2.8
Mexico	-	-	-	-	0.8	0.6	0.9	1.5	1.7	1.4	1.4	1.9	3.5	4.0
Asia	10.7	12.1	14.6	16.0	19.6	26.9	29.6	32.8	34.9	36.6	39.9	39.6	39.3	40.2
Middle East	5.5	5.1	6.9	7.8	10.8	17.0	19.7	25.1	27.1	26.8	-	-	-	-
Japan	4.7	6.3	7.0	7.7	7.9	8.8	9.3	7.1	7.1	8.9	6.0	4.8	5.7	4.6
Europe	37.0	35.6	37.6	38.8	37.0	31.6	32.7	27.9	26.6	24.7	23.8	20.4	18.1	18.0
EEC (10)	28.3	28.6	29.9	30.9	27.7	24.9	24.6	20.1	19.3	18.6	18.0	15.4	13.6	12.6
EFTA	7.5	5.9	6.0	6.4	6.5	4.8	5.7	4.9	4.2	4.0	3.7	3.0	3.0	3.4
Eastern Europe and USSR	3.2	2.1	3.0	1.9	1.4	1.3	1.6	2.0	2.1	1.5	1.4	1.2	1.2	2.6
Oceania	0.1	0.2	0.1	0.2	0.3	0.1	0.4	0.1	0.1	0.1	0.2	0.2	0.2	0.1

Source. Yearbook of International Trade Statistics, Vol. I, 1978-82.

Summary

The rapid growth of Brazil, Mexico, the Republic of Korea and Singapore in the 1960s and 1970s was led by their dynamic secondary sector. Their manufacturing industry grew particularly fast. The two Asian countries grew more rapidly than either Brazil or Mexico. This was in part due to the fact that the two Latin American countries had already a sizeable manufacturing industry in place by 1960. In Singapore and the Republic of Korea this sector was small and its subsequent rapid growth lifted overall economic growth rates to a high level.

Economic growth was high on average but it also showed great variations. This was perhaps least so for the Republic of Korea which grew at 10 per cent average per year from 1962 to 1978. In Singapore growth was relatively slow in the early 1960s (5.5 per cent per annum between 1960 and 1965) but accelerated in 1965 and was 16.1 per cent on average per year between 1966 and 1970. In the 1970s economic growth slowed down but remained at a high level: due to some years of low growth in the first half of the decade, economic growth was "only" 8.6 per cent on average. The Brazilian economy grew by 10.1 per cent on average between 1968 and 1973. In earlier years a stabilisation programme had caused slow growth: from 1962 to 1967 it was 3.4 per cent on average. From 1974 to 1980 economic growth was 6 per cent per annum. The Mexican economy showed steady growth at 7.1 per cent per annum in the 1960s. In the 1970s, however, growth became more erratic. It dropped to 3.4 per cent in 1971, recovered in subsequent years, but dropped again to 2.8 per cent on average between 1975 and 1977. Following the discovery of huge new oil reserves the economy rebounded and grew by 8.5 per cent between 1978 and 1980.

Rapid economic growth has taken place in conjunction with drastic structural changes. The most important of these is the large number of people that left the agricultural sector (figure 1). This put considerable pressure on employment creation elsewhere in the economy, a problem that was particularly serious in Mexico where labour force growth is high and where agricultural growth slowed down dramatically after 1965.

There is a marked difference in the pattern of industrialisation among the four countries. In Brazil and Mexico high growth was concentrated in such sectors as steel, chemicals, transport equipment and machinery, which are

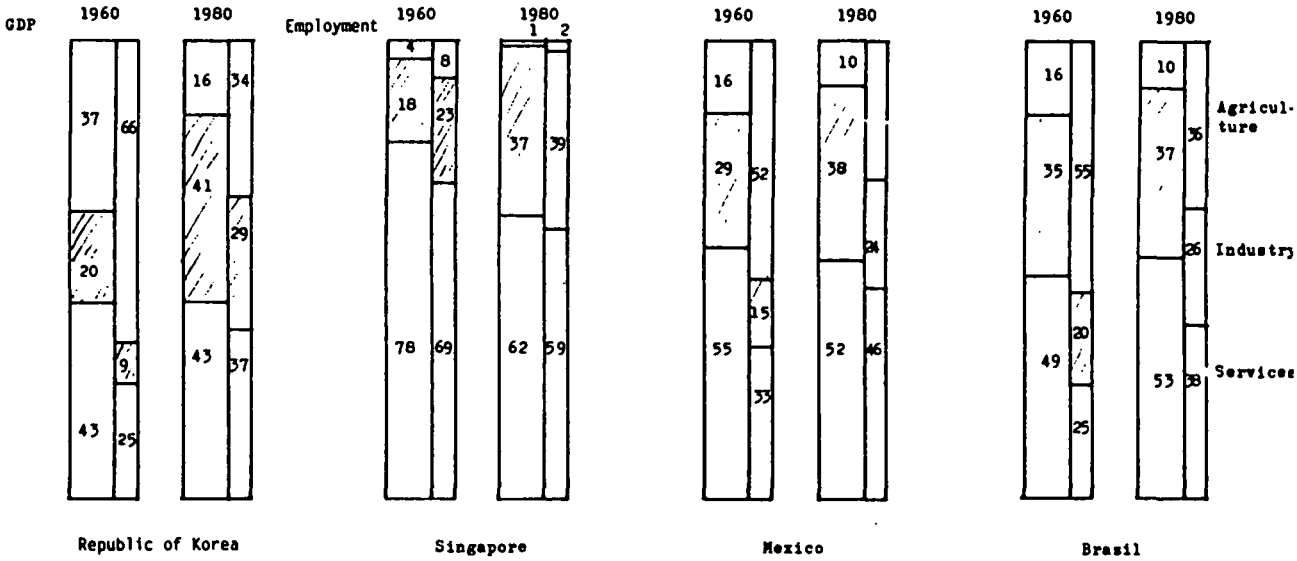
capital- and skill-intensive, but which use relatively little labour. In Singapore, in contrast, rapid growth took place above all in labour-intensive industries such as textiles, clothing and electrical and electronic goods, which use relatively little capital and skilled labour. In the Republic of Korea the high growth industries of the 1960s were also labour-intensive. In the 1970s, however, rapid growth became progressively concentrated in more capital-intensive industries such as steel, transport equipment and other heavy industry.

The different degrees of labour-intensiveness is well illustrated by the examples of Brazil and Singapore. In manufacturing in 1980, Brazil needed only 16 per cent of its workforce to produce 29 per cent of output. Singapore, in contrast, needed 30 per cent of its workforce to produce 28 per cent of its GDP.

Traditionally, international trade has been very important for the entrepot port of Singapore. Brazil, Mexico and the Republic of Korea traded little before 1960. After 1960 the Republic of Korea showed spectacular export growth. On average, this increased by over 30 per cent per annum in the 1960s and over 20 per cent in the 1970s (table 43). Today around one third of its GDP is exported. For Mexico international trade remained relatively unimportant until the oil boom. After 1977 both exports and imports increased rapidly, and together they were the equivalent of 18 per cent of GNP in 1980. Brazil's foreign trade increased rapidly (from a very low base) after 1967. Exports as a percentage of GNP reached 7.9 per cent in 1980. Foreign trade remained a lifeline for the Singapore economy. Today, the value of the country's exports (in terms of output) is higher than that of its GDP (in terms of valud added). (Figure 3 compares exports and GNP for the four countries.)

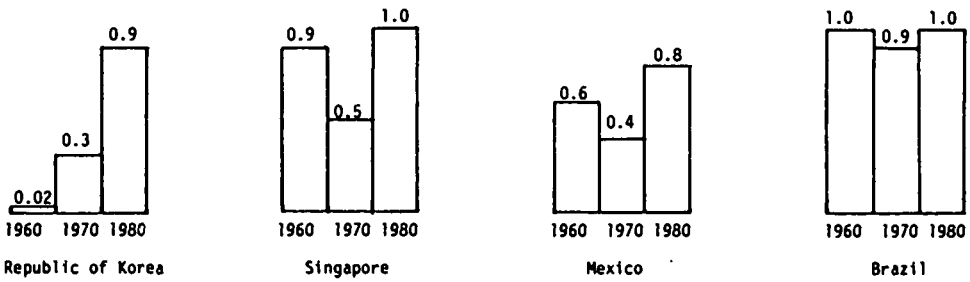
Virtually all of the Republic of Korea's and Singapore's exports are manufactures. In Brazil, where manufactured export growth outpaced primary export growth, manufactures and semi-manufactures made up 56 per cent of all exports in 1980 commpared to only 16 per cent in 1966. In Mexico the opposite happened. Petroleum and gas became such important items that in 1980 they alone accounted for two-thirds of the total. Manufactures, in contrast, made up only 7.3 per cent of the total, or less than half of its share 10 years earlier. (Figure 2 compares the share of exports of each country in world exports and manufactured exports.)

Figure 1. SECTORAL DISTRIBUTION OF GDP AND EMPLOYMENT (%)

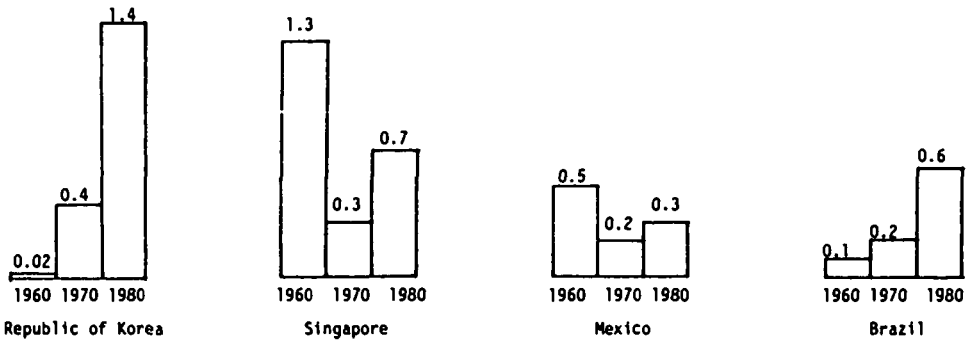


Source: The World Development Report, 1982.

Figure 2. Share in total world exports (per cent)

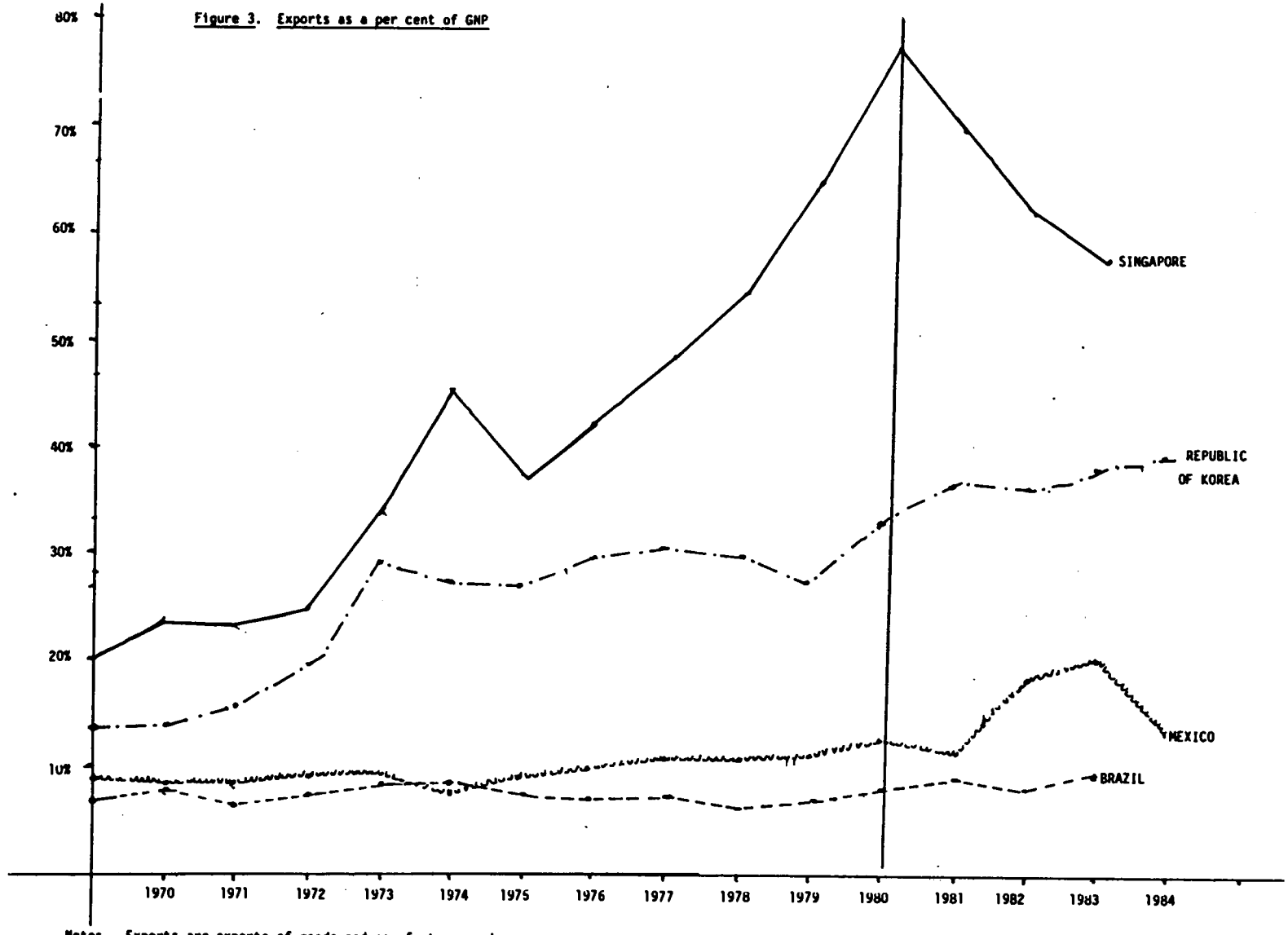


Share in world manufacturing exports (per cent)



Source. UNCTAD: Handbook of Foreign Trade Statistics, 1981.

Figure 3. Exports as a per cent of GNP



Notes. Exports are exports of goods and non-factor services.
For Mexico, 1984 and Brazil, 1983, exports were derived from international transaction statistics - as recorded by custom services - and from GDP rather than GNP. To compare the figures for Mexico in 1982 and 1983 calculated in the same way are 13.1 per cent and 15.4 per cent. For Brazil they are 8.0 per cent, 1981 and 6.6 per cent, 1982.
For Singapore exports as a per cent of GNP are merchandise exports only, according to the World Bank those were 74.7 per cent in 1970, 64.7 per cent in 1975 and 60.5 per cent in 1981 of total exports (World Bank, World tables, 1983, 3rd edn.).

Source. IMF: International Financial Statistics (Washington, DC, 1985).

Table 43. Population, GDP, per capita GDP and exports (selected countries)

	Brazil	Mexico	Republic of Korea	Singapore
Population (in 1980)	118.7	69.8	38.2	2.4
Population growth 1970-80 (per cent, per year)	2.2	3.1	1.7	1.5
GDP (1960, '000 mln US$)	24	12	3.8	0.7
GDP (1980, '000 mln US$)	237	168	58	10
GDP per capita (1980 US$)	2050	2090	1520	4430
Average annual growth 1960-80 (per cent)	5.1	2.6	7.0	7.5
Merchandise exports, 1980 ('000 mln US$)	20.1	15.3	17.5	19.4
Average annual growth 1960-1970 (per cent)	5.1	2.8	34.1	4.2
1970-1980 (per cent)	7.5	13.4	23.0	12.0

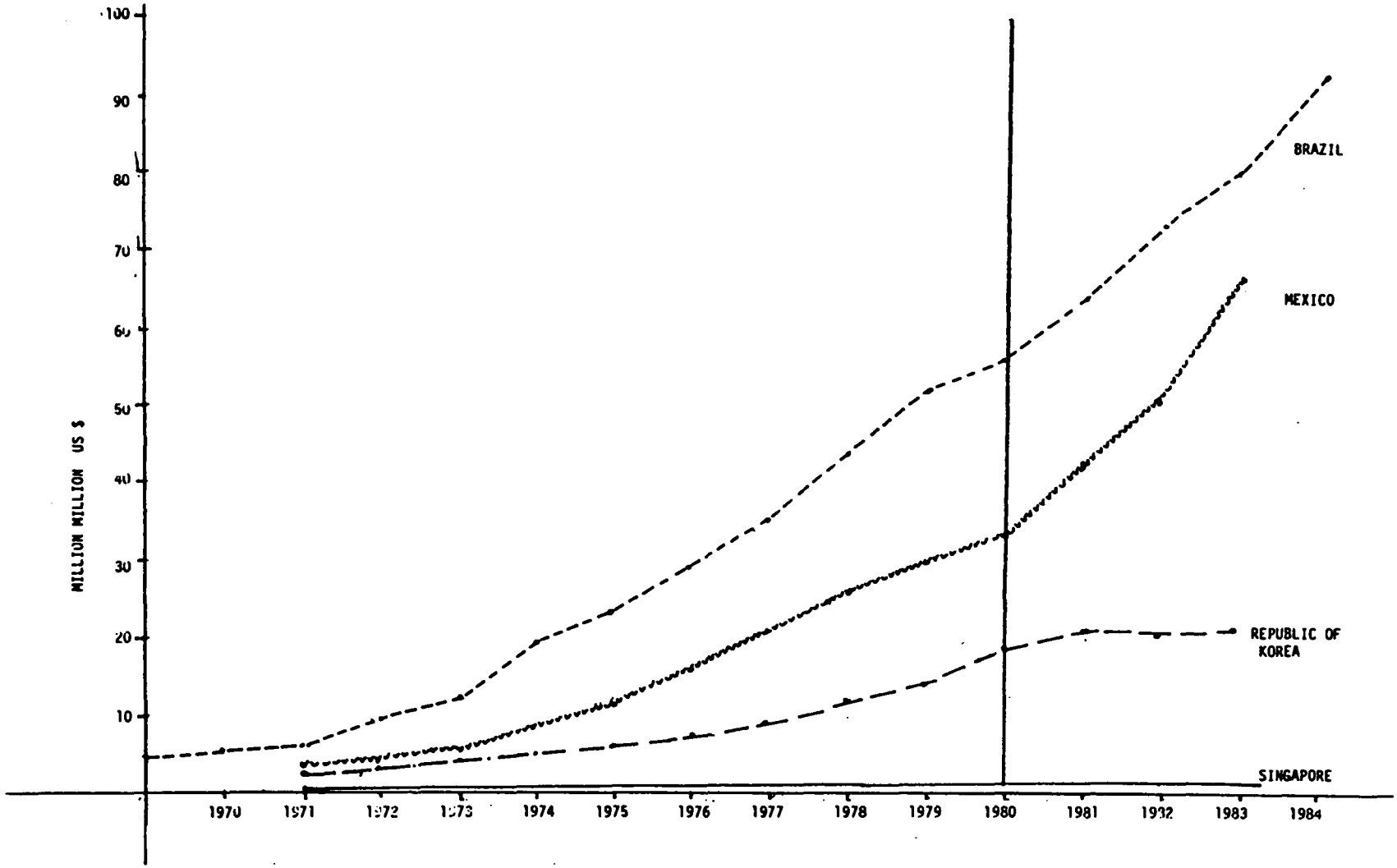
Source. World Bank: World Development Report, 1982 (Washington, DC).

Each country achieved a greater diversification of their export markets in the 1970s. The share of developing countries grew particularly fast. Mexico is the exception though: it still depends for over 60 per cent of its exports and imports on one country, the United States.

Brazil and the Republic of Korea, which depend to such a large extent on imported energy, were hard hit by the 1973 oil-price hike. Their large current account deficits forced them to borrow more abroad. Thanks to drastic action aimed at cutting energy consumption and promoting visible and invisible exports, the Republic of Korea narrowed its current account gap quickly. Because it was very concerned about the inflationary effects, Brazil delayed passing the full impact of the oil price increases onto the consumer. This explains in large part why the former's debt position increased less dramatically than the latter's (see figure 4). Mexico's high debt exposure is quite unrelated to the oil price increase. It rose drastically as a result of the expansionary programmes of the early 1970s which, in the inability of generating domstic resources, were financed by borrowing abroad.

Its more favourable debt structure and the high level of its export earnings help explain why debt servicing has been less of a problem for the Republic of Korea than it has been for the two Latin American countries (figure 5).

Figure 4. Total debt outstanding (disbursed)

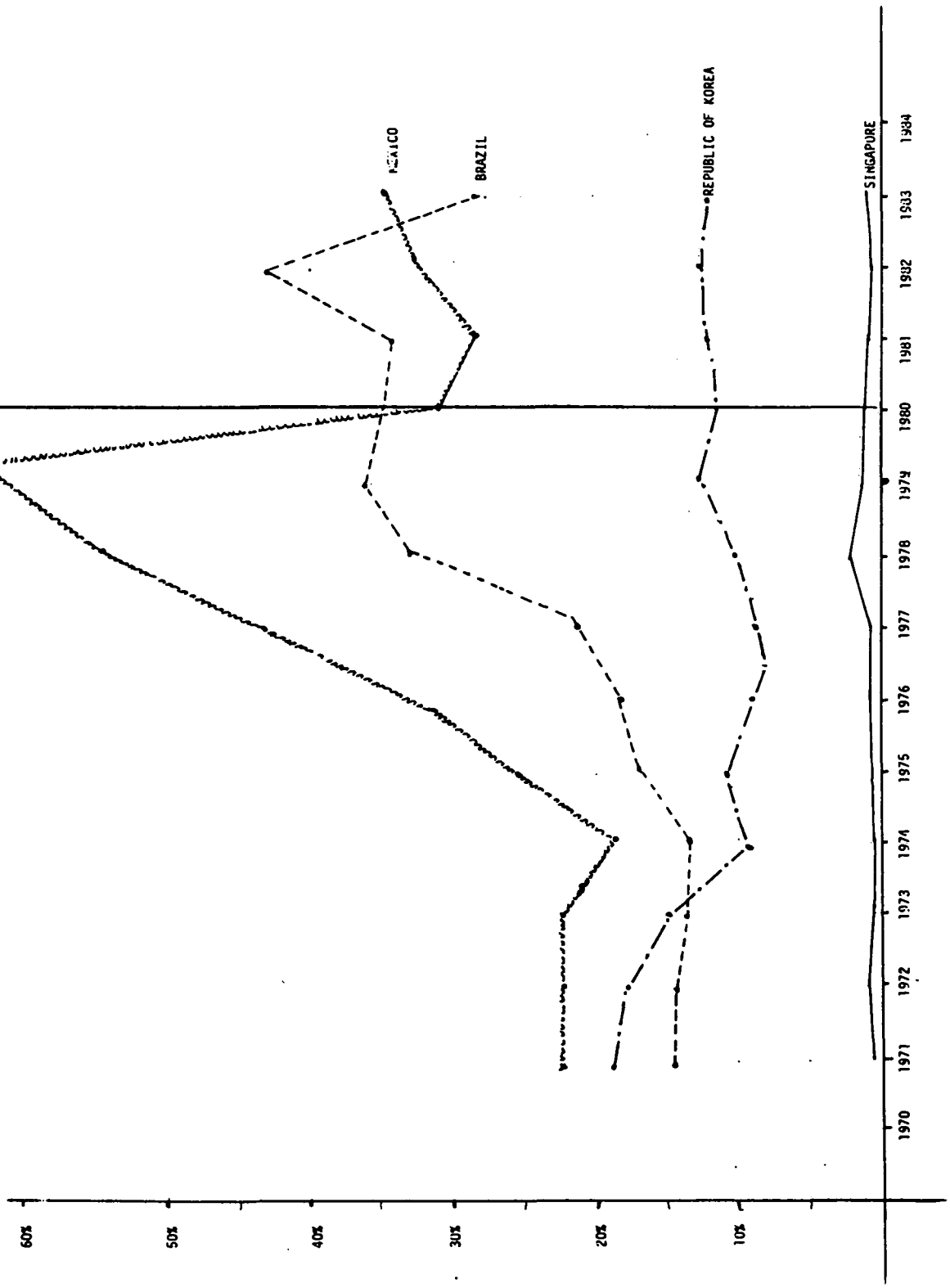


Notes. Total debt is debt with original maturity of more than one year.

For Mexico and Singapore instead of total debt outstanding the figures refer to total public debt outstanding. For Mexico public debt as a per cent of total debt was 70 per cent in 1970, 71.7 per cent in 1975 and 79.3 per cent in 1982 (Centre for Applied Studies, 1983).

Source. World Bank: World debt tables, 1980, 1982-83, 1984-85.

Figure 5. Debt service as per cent of exports



Notes. Exports are exports of goods and non-factor services.
Debt service is total debt service on both principal and interest.

Source. World Bank: World debt tables, 1980, 1982-83, 1984-85.

Chapter 3

GOVERNMENT AND THE MANUFACTURING INDUSTRY

There is no agreement on the precise role of government in the economy. Between those who argue that markets are too imperfect to assure optimal allocation of resources and that thus considerable intervention is necessary, and those who argue that the market is a cheap and relatively simple allocative instrument where too much interference by bureaucracy would lead to inefficiency and open up the possibility for corruption, there is a vast middle ground where most agree on some role for government although there is rarely a consensus about how much.

The need for government intervention to promote economic and industrial growth and an acceptable pattern of income distribution appears to be more critical in developing than in most industrialised countries. Deficient information flows, disparities in bargaining power among different socio-economic groups and the scarcity of essential inputs are but a few of the factors which explain this.

But governments are not as influential as some of them would like in achieving their objectives. A government is only one of the actors involved and unless it owns or controls the entire productive capacity it must rely on persuading the other actors to move in its desired direction. When it comes to distributing the benefits of growth the freedom of action of any government is also limited, as long as it does not want to put its own survival at stake.

Government is not a neutral force. In some cases power is in the hands of a few people and their background and interests may disproportionately influence the outcome of economic decision-making. The political system may be controlled by a small élite, a small group of people in government and business who share the same background and outlook. Their decisions would benefit them most of all. Investment would be channelled into projects that increase their wealth, status and power. Income from property would be encouraged at the expense of employment (Mehmet). In other cases government operates more as a neutral force and its loyalties to one social class or group are less clear or direct.

Government is also not necessarily a force that speaks with only one voice or works towards the same end. Inconsistencies ranging from lack of co-ordination to open conflict between different branches of government have affected local and foreign investors alike.

This chapter - and indeed the whole study - deals with socio-economic development and it is implicitly assumed that this has the highest policy priority. This is probably a fair assumption as even a government whose prime concern is to perpetuate its own power will find that this is easier in an environment of steady socio-economic progress. The situation of some countries is such, however, that concern for internal and external security has top priority. This concern is then used as an explanation for the government assuming extraordinary powers. But even this need not be incompatible with striving for economic and industrial growth as the case of the Republic of Korea shows.

Today, governments may consider concern for the economy one of their prime responsibilities, but often they became involved quite "by accident". In Latin America, for instance, which was the developing continent to first industrialise, governments became involved because the people affected by the 1930 crisis, by scarcities during the Second World War, by the wave of imports after that war or by depressed world market prices following the end of the Korea War, turned to their governments for assistance. In Brazil, for example, the first case of major central government intervention occurred in the early 1930s. Depressed demand and low world market prices for coffee threatened disastrous effects for the Brazilian economy that depended so much on coffee, its main export product. Under pressure from producers, and aware of the threat to the economy, the new Vargas government bought up all the stocks and destroyed them. In combination with a sharp devaluation, and a public works programme this prevented deeper stagnation and maintained domestic income and demand at a reasonable level. It also had a favourable effect on industrialisation. Imports became expensive and there was less foreign exchange available to pay for them. Some capital previously invested in coffee went into industry to benefit from new profitable opportunities (Robock; Luiz Possas).

The example of Brazil where government became involved in the economy almost by accident (but where it now plays a very important role) contrasts

with that of Singapore where government, right from the start, was very explicit about its policy aims, including raising the living standards of the population, and how it wanted to achieve them. Through closely supervising the economy it has been successful in reaching these objectives.[1]

In Mexico the Government became only reluctantly involved in the economy. In fact the country's "stabilising development" policy of the late 1950s and 1960s which stressed price stability in the absence of exchange controls, together with low tax rates, allowed government very few initiatives. Passively the government did intervene through protection against imports though. In the Republic of Korea it can be claimed that the announcement in the late 1950s by the United States to reduce its aid to the country, caused the government to take a more active interest in the economy.

However, whatever the way in which its involvement started, the government played a very important role during the high growth period in shaping the industrial structure of each of the four countries. The rest of this chapter will review this government intervention. It will ask how "planned" each intervention was and what actual industrial and trade policies consisted of. Finally, it will look at two sets of instruments that governments have at their disposal - incentives, and the distribution of funds for investment - and ask how effective each has been for reaching stated goals. A third instrument, direct government investment, will be discussed in the next chapter.

Planning and co-ordination

In the discussion on the precise role for government, planning has a central place. Once it is accepted that there is a role for government, a plan can be an extremely useful instrument. A good plan contains a development strategy that specifies its objectives, sets clear and realistic targets, spells out how the targets should be achieved and when, and who is

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[1] The government went beyond this and made it clear to the population that it considered certain virtues essential: hard work and savings, pride in the country's achievements and understanding of its difficulties, and healthy minds in healthy bodies to assure the desired quality of life. Furthermore, it actively discouraged people from smoking, drinking, wearing long hair, etc. (Geiger, p. 215).

responsible for achieving them. A published plan serves for greater co-ordination within the public sector as individual actions and problem solving can be checked for consistency with the plan.

Plans are also important for those outside the public sector. A published plan shows which problems are of public concern and, by omission, which are not. It shows that there is sufficient consensus for a problem to be raised in an official document. Published targets would help private enterprises which also make projections and have to make investment decisions. It would assist them greatly if these could be checked against government projections at an early date (Kuznets).

Preparing a plan can be an extremely useful exercise. Indeed, it has been argued that the preparation of a plan can be more important than its execution. It is a huge and complicated exercise which takes a lot of time and requires a minimum of statistical data. The preparation of a plan forces different branches of government to view the economy as a whole and to ask certain crucial questions about the future. It forces government to assess its role in this future, makes it aware of the need for essential inputs and helps to identify crucial constraints.

Implementing a plan may be much more difficult. Internal, and above all, external circumstances may change rapidly and have serious unforeseen consequences. Two bad harvests in a row or a quadrupling of oil prices may radically change all assumptions. An unforeseen event in the first year of a medium-term plan that foresees high growth may upset projections for all future years. A plan must thus be implemented flexibly and ideally planning and pragmatism go hand in hand.

A published plan is above all an indication (or confirmation) that government aspires to a role in the economy now and in the future. It indicates further that it thinks it can influence events either by enforcing or by guiding. It is in this respect illustrative that when in the late 1970s the Fifth Five-Year Plan was about to come out in the Republic of Korea, Mexico had only just published its first development plan. It is also interesting to note that in Mexico the sectoral development plans came out before the "global" plan. This sequence did not allow a consistency check between objectives and financial means, nor between the objectives of

different plans. So although these plans gave an indication of a desire to come up with an integrated, forward-looking policy at the sectoral level, they also confirmed the low level of inter-sectoral co-ordination.

The huge size and complexity of their economies and related data gathering problems have, of course, made attempts at planning much more complicated in Brazil and Mexico. There have nevertheless been a number of planning efforts in Brazil. An Economic Planning Commission was set up in 1944. There was the 1948 JALTE plan for national development, the "Comisao Mista" (the joint Brazil-United States Development Commission) and the 1956-61 "Plan of Targets". Two four-year development plans were also published: the first (1972-75) and second (1975-79) National Development Plan. The importance attached to planning in Brazil has varied a great deal with the personality of the minister responsible.

In Singapore the efficiency of policy-making is facilitated by the high degree of co-ordination among different ministries, which in turn is helped by the fact that relatively few people are involved and that they meet frequently. This high degree of day-to-day co-ordination and contacts may be among the reasons why no further plans were published after the 1961 Development Plan.[1] Development policy is very much project-oriented and takes place within the overall guidance and with the active participation of Deputy Prime Minister and Finance Minister, Dr. Goh Keng Swee[2] and Prime Minister Lee Kuan Yew who have been in government since independence. The planning style is characterised by great flexibility and pragmatism. Currently, planning decisions are taken by a Development Planning Committee (DPC) that consists of the Prime Minister, the ministers of finance and development and the minister responsible for the project concerned (Chen in Chen).

There is no doubt that a high degree of continuity and consistency in government policies is favourable for investment. The political stability that has resulted from the long reign of Dr. Goh and Mr. Lee, who has been in power in Singapore without interruption since 1959 (26 years) has no doubt

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[1] In 1979, an indicative plan for the 1980s - the Ten-Year Plan - was made public.

[2] Now retired from these functions.

contributed to the country's economic progress. In the Republic of Korea, Park Chung Hee was in power all along the high growth period from 1961 to 1979 when he was murdered. In Brazil too, the military have in a way provided for political stability after 1964. It is true that during military rule a number of different presidents have "done their turn", but the influence of each appears to have been overshadowed by the influence (and stability) of the military as establishment (Evans, 1974).

In Mexico, on the other hand, the government has changed at more regular intervals and this has had a significant influence on the economy and economic policy-making. Each Mexican president is elected for a period of six years ("sexenio") and cannot be re-elected. Although he is hand-picked by his predecessor and is of the same political party (PRI) there have been considerable differences between the policies of each. Moreover, the transition from one president to the other usually involves a considerable shake up of the bureaucracy in which many lose their place and are assigned to sometimes completely different jobs in completely different sectors.

The uncertainty represented by the presidential elections has added to the uncertainty of government policies resulting from the absence of a plan. "The uncertainty that develops in the period immediately before and immediately after the election of a new president has an important influence on the economic life of the country: new investments are postponed, even normal production suffers, e.g. the demand for steel diminishes." (de Rossi, p. 30).

The worrying aspect of the sexenios is that the difference in policies between one sexenio and the next seems to be on the increase (Dominguez in Dominguez). The differences between "sexenios" puts the 1979 planning exercise also in a different perspective. The Industrial Development Plan for instance was supposed to cover the period 1979-90. Although this permitted a long-term view of Mexico's industrial development it also covered three sexenios and it is doubtful whether the two other presidents involved in the years covered by the plan would feel bound by it.

Whatever its favourable influence on economic growth and investment, it must be recognised that "stability" may also have some ugly political connotations. In many cases great political stability is the direct result of the weakness of forces outside the government and the impossibility to remove

the government by democratic means. In this respect, the uncertainty surrounding the sexennial rhythm should not be exaggerated. Most countries would be envious of the Mexican political system that guarantees six years of stable government and few countries can boast a government party in power for over 60 years.

The Republic of Korea has a long planning history. A number of plans had been drawn up after independence[1] and the first Five-Year Economic Development Plan, presented in 1961, was thus certainly not the first attempt at planning in the Republic of Korea. Nevertheless it was a relatively simple document. In the first years of its implementation economic growth was much slower and inflation much higher than projected, and it was largely ignored. However, just when planners were ordered to revise their targets downwards, the economy reached the high growth levels which had been predicted for 1964 and 1965. As these years coincided with the preparation of the second Five-Year Plan, this exercise was suddenly given much more importance.

The second plan was in a number of aspects a turning point: within a year the planning function and the planners became integral parts of the decision-making process. A number of factors are said to have contributed to this. Among them are the quality of the plan - the new plan could draw on the first input-output tables made for the Republic of Korea in 1961 and 1963 which allowed linkages to be evaluated more precisely; the contribution of foreign consultants; the high commitment of the chief of the newly established Economic Planning Board; the active participation of officials from many sectors, as well as the realisation that this plan might have some influence on the budgetary and policy action of the government. "Because the various agencies of the government began to suspect that the plan might have such an influence, they took it more seriously and thereby contributed to its increased significance." (Cole and Lyman, p. 219).

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[1] Post-independence planning in the Republic of Korea dates back to the civil war when an American firm (Robert R. Nathan and Associates) prepared a plan at the request of the United Nations Korean Reconstruction Agency. This plan was never implemented. The fact that (the then) President Syngman Rhee was never consulted during its preparation may have had something to do with this (Tony Michell). Just before the overthrow of President Rhee, the first (three-year) phase of a new Seven-Year Plan had been adopted, but the change of government prevented its implementation. The succeeding (Chang) government had a Five-Year Plan prepared and this was ready just before the 1961 coup d'état.

Planning in the Republic of Korea grew thus gradually in importance because of the significance attached to it at the highest executive level, but also because a kind of virtuous circle of participation developed: as more officials of more agencies became involved, the plan gained in respect and importance. Participation, moreover, had some educational value: as officials from many ministries had participated in the discussions on the plan, they were more aware of the resource limitations (ibid., p. 219).

Planning allowed the identification of bottlenecks and indicated to business and government agencies what the priorities were for the years to come. Plans were not meant to forecast precise growth rates, and indeed these (sometimes) widely differed from what had been targeted: "This is hardly unusual by international standards: what is unique is that deviations were generally positive (Jones and Sakong, p. 56).

Whatever its significance as a policy instrument, planning was, however, never allowed to make government policies too rigid. Each year the plan was subjected to an economic review to allow modifications to be made to the basic plan according to developments in the past year. These annual reviews were called Overall Resource Budgets (ORBs)[1] (Michell; Cole and Lyman). This flexibility and pragmatism are illustrated by the government's quick reaction to the first oil crisis. Shortly after the 1973 oil price hike, in no more than three weeks a fairly sophisticated document was prepared that combined "a respect for allocating efficiency (increase in price of petroleum products to more or less world levels) with a concern for equity (taxes were realigned to reduce the net burden on the middle class and increase it on the rich). There was also recognition of the dangers of adjustment windfalls (petroleum product price increases and allowable pass-throughs by users were to be allowed only after scrutiny of profit and loss accounts)." (Jones and Sakong, p. 61).

This brief summary of planning in the Republic of Korea would not be complete without mentioning the critique that it has received more recently from Republic of Korean researchers. They are especially critical of the Heavy and Chemical Industry Plan that was launched in the early 1970s. This plan is now considered to have been too ambitious as it kept huge investment

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[1] These were later called "Annual Economic Management Plans" (Michell).

funds away from other sectors. (This plan and its critique will be discussed in the next section.) In more general terms, it seems clear that as the economy has become more complex, it is increasingly difficult to guide it in the way the first Five-Year Plans have done. In a way the Fifth Plan that was published in 1980 recognised this as it announced reduced government intervention in the economy.

Industrialisation and international trade policies

In most developing countries early industrialisation came about fairly spontaneously. In response to local needs, production of low cost, low quality, consumer goods emerged virtually without government involvement. These goods required no complicated technology or skills and had a low minimum efficient scale of production. They include textiles, clothing, processed foods, production and repair of shoes and other leather products, of furniture and other wood products. Others emerged because the cost of transportation would add disproportionately to their production cost, such as bricks and other building materials, and later on beer and soft drinks. A third category was the local processing of mineral and agricultural raw materials for export, such as copper or sugar refinery.

A country that wanted to maintain the growth momentum of its industrial sector beyond this early industrialisation phase was generally considered to have two options: reduce or increase its participation in international trade, "deepen the import substitution process" by raising protectionist barriers or encourage production for export.

It is doubtful whether export promotion or import substitution was ever such a clear and conscious choice as it is sometimes made out to be. Protection offered to domestic producers was often, initially, only a reaction to sudden Balance of Payments problems, when trade barriers were erected to reduce imports. Or protection was awarded at the request of a producer in difficulties.

Protected industrialisation can be justified when the social benefits of establishing an industry are greater than the net benefits accruing to the individual industry. This is the case when knowledge of new production techniques and processes will eventually be shared with other producers, and

also, when workers, who have been trained by or for the particular industry, will be hired by other industries. Protectionism should be temporary, however, and the expectation must exist that after a certain time the industry will be able to produce at internationally competitive prices (Meier).

However, in practice such cost benefit considerations have rarely preceded the awarding of protection. Moreover, the effects on the balance of payments of import substitution were not necessarily as favourable as expected: the final product was no longer imported but many or most of its intermediate inputs were, and if the domestic producer was not very efficient the foreign exchange cost of these could come very close to that of the previously imported product or even higher. Besides, setting up domestic production involved the importation of machinery which was often taxed at low rates which induced over-capacity and encouraged capital-intensive processes.

In any case prolonged import substitution appears to be the privileged option of the larger, resource-rich countries. They have a potentially large-enough domestic market to allow producers to reap the benefits of economies of scale while agricultural and mineral exports pay for imports of intermediate inputs and capital goods.

Smaller and poorer countries usually do not have this option if they are looking for a high growth path. They must participate in international trade.[1] Compared to slow growing domestic demand, international demand may appear to have unlimited growth prospects to the small producers. Export expansion may thus be very advantageous. It allows a country to produce more efficiently, benefit from scale economies and international specialisation, earn foreign exchange, etc. Past experiences show a high correlation between export and GDP growth.

However, this greater reliance on the outside world may also lead to greater insecurity. Competition may be fierce, demand insecure and prices may fluctuate wildly. Current slow growing demand and growing protectionism in the OECD are cases in point.

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[1] The same can be said for countries that rely heavily on imports for their oil needs.

Moreover, most of the advantages may seem more obvious to governments than to the individual producer. For him exporting may be a shot in the dark, a risk he is not keen to take. Given the choice, most producers would probably prefer to supply their home market behind protected walls rather than go abroad and sell to unknown markets a product that may be difficult to sell because quality and price compare unfavourably with competitors. They may recognise the advantages of producing for export, but feel that those are outweighed by the disadvantages caused by insufficiently trained staff and management, deficient infrastructure, and so on.

This reluctance on the part of domestic producers is among the main reasons why foreign investors, and multinationals in particular, with their financial muscle and marketing experience have become such important partners of governments that were keen to export. It has also caused successful governments to take an active lead in providing firms with support both at home and abroad, in order to help exporters, provide them with information about foreign markets, organise trade fairs, etc.

The main reason why export promotion and import substitution are presented as alternatives is because the distortions that are introduced in the economy, as a result of an uncontrolled import substitution process, make it very difficult for domestic producers to compete abroad if these distortions are not rectified or compensated for. Inefficiencies resulting from protection also affect the producer who is forced to use the uncompetitive product as an input and who cannot import an alternative.

A policy that tries to encourage exports should therefore start by restoring the potential exporter to a "free trade" situation. Strictly speaking this cannot be called an export incentive. Such measures include the tax-free importation of inputs and access to foreign exchange to purchase them. They could also include tax and interest rebates to bring them at "internationally comparable" levels as well as a "realistic" exchange rate. "Preferential" access to loans may do no more than to avoid the exporter having to go to the expensive unorganised market.

In a country that for a long time followed an import substitution industrialisation policy superimposing a system of incentives to compensate for disincentives can become extremely complicated. Witness, for instance,

this comment by Overholt about the situation in Brazil in 1978: "The whole economy is now run by a system of export subsidies, import deposits, credit subsidies, dual exchange rates, indexing, price controls, and other regulations which, if taken together, prove to be extraordinarily complex. It takes, for instance, a major effort by the country's best economic minds to discover the net effect on the trade balance of the conflicting policies of taxing agricultural exports, subsidising agricultural credit, overvaluing the exchange rate and collecting import deposits that deteriorate in the face of inflation. Similarly, the desire for rapid growth has led to subsidisation of the state firms and to incentives for multinational investment. These policies have led in turn to inflation, which in turn leads to indexing. When the indexing units has negative consequences, other "creative" measures are necessary to effect corrections. And on it goes. The result is a network of policies and of policy-implementing agencies of almost unmanageable complexity." (Overholt, p. 15).

In the period considered each of our four countries have faced the question of how to proceed after the initial industrialisation phase. How have they solved this question? Singapore has offered very little protection to its manufacturing industry and true to its pre-1960 traditions, post-1960 industrialisation took place under very close to free trade conditions. Brazil and Mexico followed an import substitution path for a long time, but later on, Brazil in the late 1960s and Mexico in the early 1970s, came to stress the importance of exports more. Brazil was fairly successful in this and by 1980 about half of its exports were manufactures. In Mexico this proved more difficult. The Republic of Korea that had hardly exported any manufactures before 1960 embarked in the early 1960s on a development strategy that combined vigorous export promotion, with protection of selective industries. The following paragraphs expand on this.

Singapore: Upon independence Singapore was a free port with little industrialisation. Unemployment was high and the government decided that accelerated industrialisation and construction would absorb most idle labour. The smallness of the domestic market would normally leave little room for import substitution industrialisation but the prospects of a common market with Malaysia led to mild protection to encourage production for this market. When the political federation with Malaysia collapsed in 1965, protection was reduced and a policy of producing especially - but not exclusively - for

export was initiated. Industries that would absorb a lot of labour received priority treatment. Tariff protection was granted to industries which were expected to develop export markets as well as supply local demand, such as textiles, garments, footwear and television assembly (Lim and Pang).

Although much has been made of the shift in policy, both pre- and post-1965 policies had in common the fact that each stressed manufacturing (an activity that was relatively unimportant before in Singapore); and that import substitution for the Malaysian market, for Singapore still meant exporting to the other members of the Federation (although it is true that conditions and products were, of course, different from producing for the "world market").

Very rapid economic growth in the second half of the 1960s led to labour shortages, more reliance on foreign workers and an upward pressure on wages. In the early 1970s, plans were drawn up to restructure the economy and concentrate more on high value added industries (and services). Due to the recession following the first oil price increase these had to be postponed. However, these conditions re-emerged in the late 1970s. Moreover competition from new suppliers and inceased protection reduced expansion prospects of labour intensive manufactures.

In 1979 the "second industrial revolution" was launched. Under this programme government encouraged the production of higher value-added goods and the upgrading of existing product lines. Priority was given to skill and R & D intensive industries and the government announced an accelerated wage increase of 20 per cent per year for three years and special incentives to accelerate this process. Labour-intensive producers were encouraged to phase out or relocate elsewhere.

Brazil: Since the late 1940s Brazil has followed a policy of import substitution industrialisation. Judging by the proportion of domestic demand that was supplied by imports it was quite successful in this. This proportion was only 6 per cent in 1964, compared to 70 per cent in 1939. Only in three industries was more than 10 per cent of demand imported: machinery (31 per cent), chemicals (11 per cent) and other manufacturing (13 per cent). With the exception of these three, continued import substitution seemed no longer a viable growth strategy in the mid-1960s (Tyler, 1981).

Starting in 1967 government came to stress the importance of manufactured exports. Low domestic demand and the considerable overcapacity of manufacturing, after a number of years of stabilisation policy, in conjunction with the opportunities offered by rapid growth of world demand encouraged Brazil to participate more in international trade. Imports were liberalised.

The balance of payments problems following the 1973 oil shock stopped the process of import liberalisation and sharply reversed it. Higher tariff and non-tariff barriers and other measures such as advance deposits for imports were imposed to slow down imports. Simultaneously, large investments were made in pulp and paper, petrochemicals, fertilisers, steel and non-ferrous metals that aimed at a further reduction of imports through their domestic production (Balassa, 1979). Export incentives hardly changed but increased protection made production for the domestic market more profitable and indirectly affected manufactured exports, the growth of which slowed down (ibid.). Manufactured exports which had come to make up 7.5 per cent of manufactured output in 1974 declined to 4.6 per cent in 1976. Thereafter when the balance of payments continued to worsen, manufactured exports were given progressively more attention, which led to spectacular export growth in the late 1970s.

Mexico: Mexico also followed an import substitution policy. Tariff barriers were much lower than in Brazil, however (around 20 per cent around 1965 against 100 per cent in pre-1964 Brazil - Bergsman, 1979). Mexico's main protectionist device was (and is) its licence system. An import licence is given only if an article of comparable quality cannot be obtained locally in a fairly short time at a "reasonable" price. The licence system is cumbersome and works as a powerful deterrent to imports. As the licensing of imports is related to the initiatives of domestic entrepreneurs - and not the result of a planned or co-ordinated industrialisation process - it has resulted in a low degree of integration of Mexican industry. A capital goods industry was particularly slow to develop. By the mid-1970s Mexico still imported 22 per cent of its consumption of capital goods (Bergsman, 1979).

Exports and manufactured exports in particular have traditionally been relatively unimportant to Mexico. The country does provide some export incentives but overall manufactured exports as a percentage of domestic production were never high. Moreover, in the mid-1970s exports suffered much

from the progressive overvaluation of the peso. Even after the 1976 devaluation the growth of manufactured exports remained slow which, it has been claimed, was due to the fact that after 1976 the peso remained overvalued (Centre for Applied Studies). The most successful export programme has been the Maquila or border industrialisation programme.

Republic of Korea: The Republic of Korea government in power in the 1950s was not very development minded. Rapid manufacturing growth was basically the result of efforts to restore pre-war productive capacity. Indeed, President Rhee is said to have been reluctant to take major new initiatives in areas where North Korea's industry was strong for fear of duplication after the expected re-unification. Exports were minimal, and the trade gap was largely financed by aid for the United States.

In the early 1960s some drastic policy changes took place which reflect a totally different government outlook on industry and the economy at large. Reliance on foreign aid was replaced by encouraging domestic savings and borrowing abroad (and to a lesser extent Direct Foreign Investment); key industries were encouraged; the industrial structure modernised through the provision of physical and institutional infrastructure; imports were liberalised and exports were encouraged. Government did, at first, not encourage specific industries but when it saw that certain (labour-intensive) products were quick to develop it gave them its wholehearted support.

In the early 1970s a new policy change took place which, with hindsight, can be considered almost as important as the ones of the early 1960s. Concerns somewhat similar to those of the Singapore Government (very rapid labour absorption, upward pressure on wages, expected loss of competitiveness in labour intensive exports) incited government to look for alternative growth paths. Contrary to the Singapore Government which wanted to promote R & D and skill-intensive activities, the Republic of Korea's government's choice was the heavy and chemical industry. The Heavy and Chemical Industry Plan was launched in 1972 and a Heavy and Chemical Industry Development Committee was set up in 1973 to co-ordinate government support for large new projects. "Instead of following the lead of private enterprises in sectoral resource allocating the government ... tried to lead the entrepreneurs according to the expected changes in the Korean comparative advantage." (Hong, 1979, p. 69).

The Republic of Korea's emphasis on heavy and chemical industry was, of course, more risky than Singapore's strategy. First, by their very nature these industries are much more capital-intensive, which makes planning errors more costly. Second, with the Republic of Korea's reluctance to rely too much on DFI, most of the heavy and chemical industry would be Korean (public or private) owned. What foreign capital was needed had to be largely borrowed abroad (and added to the foreign debt). In Singapore most manufacturing industry is foreign owned and much more foreign risk capital is involved.

Government bore much of the investment cost related to the promotion of heavy industry. It invested heavily in iron and steel. Most industries were promoted with the idea that after some years of infant protection they would become viable exporters. Entrepreneurs were encouraged to build plants of such capacity that they would be efficient exporters (but have large overcapacity in the short run). However, contrary to those relatively simple, labour-intensive industries of the 1960s, these investments needed a much longer lead time. On top of domestic market protection, infrastructural support, tax concessions and foreign loan guarantees, they needed long-term preferential loans without it being clear whether they would in the end prove viable exporters. As it happened, shipbuilding and iron and steel proved much more successful in capturing foreign markets than, for instance, machinery and petrochemicals which worked for a long time with considerable overcapacity. Moreover, in certain lines several producers who had duplicated investments all had considerable overcapacity (Park Young Chul, 1983).

Incentives

After this rapid overview of broad trade and industrialisation policies we will consider two sets of instruments that governments have used to influence the structure and the size of industry and exports. The next section will briefly deal with governments efforts to influence the flow of financial resources to enterprises. This section will discuss trade and industrial incentives. As there are so many of those incentives, and as they have changed so much over time it is impossible to be complete. The discussion is thus, by necessity, rather impressionistic. An effort has been made though to include the most important ones.

Export incentives tend to be defined as all measures that increase the profitability of exports by reducing costs or increasing profits. Industrial incentives can be similarly defined as all measures which increase the profitability of manufacturing. They aim at encouraging the production of a certain good or set of goods by favourably influencing the production conditions of firms. They are given because production of certain goods would have favourable spillover effects (externalities). A pioneer enterprise can serve as a training centre which trains people. Technical expertise is accumulated which can be applied in other industries without them having to pay the same learning costs. Low cost and high quality imputs can be important for other industries. If the initial exports of the first few firms are of good quality and sold at a good price, this may attract more buyers to the country. On the other hand, "Bad experiences with one supplier could hurt others" (Keesing, 1979, p. 42).

Singapore: The Singapore Government created the Economic Development Board (EDB) in 1961 to implement and oversee the country's industrialisation:

> "Until the latter half of 1968, the EDB provided a wide range of facilities and services to industrial investors within a single organisation, including investment promotion, provision of industrial infrastructure, financial and technical consultancy services, administration of fiscal incentives and undertaking of industrial feasibility studies. A "one stop" investment centre greatly facilitated investors, thus reducing uncertainty, cost and gestation period. As the function of the Board became inceasingly complex, a major organisational restructuring took place in 1968. The EDB remained the function of investment promotion and co-ordination and overseeing the progress of promoted enterprises. Other functions were hived off into new institutions." (Chia, 1984, p. 147).

Government provided industrial estates, fiscal and trade incentives. Fiscal incentives to industry existed in Singapore since before Independence. The most important of them is the concept of "pioneer status" which was introduced in 1959. Pioneer firms were exempt from the 40 per cent corporate income tax, as well as from tax on dividends for a period of between five and ten years. The pioneer system has been greatly refined over the years and the precise incentives given today depend on which product will be produced (the list of approved products changes regularly), the level of investment, its capital- and skill-intensity, research and development spending, etc.

By 1980 there were 420 pioneer establishments in production, together employing around 120,000 people, mainly in metal products and engineering, electrical and electronic products and textiles and garments (Chia, 1982). If a manufacturing or related services firm does not qualify for pioneer status (or export incentives) it can obtain an investment allowance. This allows a tax credit of up to 50 per cent of new fixed investment in plant, machinery and factory buildings. The credit can be set off against the profits of the company for the year in which the capital spending takes place (Lim and Pang; Chen).

In connection with the "second industrial revolution" a number of new incentives were introduced in addition and/or as replacement of existing ones. These include tax incentives to encourage R & D in manufacturing firms, as well as incentives to help firms that cannot pay market wages to relocate elsewhere, etc.

Protection against imports has been modest in Singapore. Selective infant industry protection started in 1960 when the first protective tariffs were introduced. Tariff protection increased gradually until there were 400 protected items in 1969. After 1970 the number went down rapidly and reached 100 in 1975. Quantitative restrictions and special import licences were introduced in 1963 but abolished with the collapse of the common market. The few remaining quotas were transformed into tariffs.

One can say that the period 1963-65 was the only real import substitution period in Singapore. The relative brevity of that period had the advantage that inefficiences associated with protection had not yet been deeply embedded in the industrial structure. Moreover, powerful interest groups dependent on tariff protection had not developed.

There are no export restrictions and imported inputs for exports are allowed in duty free. A system of export incentives was introduced in 1967. The Export Incentive Scheme provides for 4 per cent tax, rather than the usual 40 per cent on profits of approved export projects over a certain size for a period of five to 15 years. Exports are thus encouraged in cases where it will be unjustified to award pioneer status because of existing local manufacture (Chen).

Brazil: Fiscal incentives in Brazil have had two aims: achieving a greater deconcentration of industry and encouraging priority industries. Many have been in existence since before 1964. In order to encourage the development of the poor North-East, Brazilian corporations were permitted to cut their income tax liability in half, provided they invested the saved half in North-Eastern projects approved by the SUDENE (Superintendencia do Desenvolvimento do Nordeste - created in 1966). A similar system was later set up for the Amazonas Region (administered by SUDAM - set up in 1966) and for a number of other less developed regions.

Incentives in manufacturing have included exemptions from tariffs, the industrial products tax (IPI), State taxes on the circulation of merchandise (ICM) and on imported equipment, and on instruments and tools for which no Brazilian equivalent exists (The "Law of Similars"); IPI credit on the purchase of Brazilian-made equipment (for majority locally-owned projects) and preferential treatment from official credit agencies.

The number of priority industry sectors to which these incentives applied was considerably expanded in 1970 and even further in 1974. However, towards the end of 1975 the list of eligible industries was reduced and for the remaining ones the 100 per cent relief from duty and taxes was cut to 50 or 80 per cent in most cases. Subsequently companies seeking incentives were asked to meet stiffer criteria, and further regulations (e.g. an increase in the local content requirement for capital equipment to 85 per cent) favoured local over foreign investment (Bank of Credit and International Commerce).

Import substitution in Brazil began to take shape in 1947, in reaction to a foreign exchange crisis. When wartime restrictions were lifted, imports surged. Rather than devalue the cruzeiro, an import licensing system was introduced. Later on in 1953 a multiple exchange system was introduced and in 1957 tariff protection.

> "Net protection for all tradeable goods oscillated between 50 and 100 per cent during the 1950s and early 1960s; for manufacturing the figure was at least double that level. Exports were discouraged by the seriously overvalued exchange rate; implicit net export taxes were around 30 to 40 per cent overall, while for manufactures the level was much higher." (Bergsman, 1979, pp. 45-46)

In the mid-1960s, when exports were given more importance, the devaluation of the cruzeiro was accelerated and in 1968 a "crawling peg" system was introduced, which kept the exchange rate much closer to its equilibrium level. Tariffs were cut. After 1974, however, they increased again sharply.[1]

Other measures that favoured exports included freedom from income tax on that proportion of profits derived from exports; exemption from all export fees, from the IPI and ICM on exported products, from IPI on imported replacement equipment and exemption from duties on imported inputs through drawbacks.

In 1972 a special export programme called BEFIEX (Beneficios Fiscais para Exportacao) was introduced. Under this programme companies that agreed to undertake large scale export programmes were allowed to amortize start-up costs over 10 years. They can apply towards the payment of other federal taxes any portion of the 40-60 per cent supplementary withholding tax they might incur on remitted dividends (Teitel and Coleman; Balassa, 1979; Carvalho and Haddad).

Mexico: In Mexico fiscal incentives are also used to promote industrial decentralisation and to promote specific branches of industry. The main incentives for the promotion of industry are those introduced in 1955 with the "law of the promotion of New and Necessary Industries". This law provides tax exemptions of between five and ten years for "New" industries (e.g. those engaged in the manufacture of goods hitherto not produced domestically, provided that these are not substitutes for other goods already being produced) and "Necessary" industries (those whose production is inadequate to meet domestic demand. The deficit must be substantial, though, and not due to temporary causes). Domestic inputs should account for at least 60 per cent of direct manuacturing costs and at least 10 per cent of value-added should take place in the plant (Solis, 1979). Tax rebates are also offered to specific industries such as automobiles, soft drinks and publishing (ibid.).

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[1] Tyler (1981, p. 20) remarked that industrial protection is frequently excessive (in 1980). He is particularly concerned about the fact that protection is often highest for the oldest and most mature industries such as textiles and apparel.

An initiative that combines both fiscal and trade incentives are the "manufacturing programmes" ("Programas de Integracion Industrial"). These programmes offer protection from competing imports, import licenses for necesary inputs and tax preferences to producers prepared to start the production of a hitherto imported good. The manufacturing programme became one of the most important instruments for regulating industry and is now a requirement for all cases where enterprises apply for protection and for new investments by enterprises in which foreign investors hold a majority share. (Looney, 1982).

Tariff protection in Mexico began in the 1930s and grew steadily thereafter. In 1970, 12,900 items were dutiable (Solis, 1979). The average level was low, however, and stood at around 10 to 15 per cent. Certain goods in the modern sector, such as TV sets, electrical appliances, radios and record players and cars have high tariffs.

The use of import licenses in Mexico has been far more important as a protective instrument though. Import licences are granted whenever an article of comparable quality cannot be obtained locally in a fairly short period of time at a "reasonable" price. Firms that comply with the broad criteria for domestic industrialisation are assured that licenses will not be issued for similar imports. In theory, the licensing should be abolished after the firm has become competitive or if it does not make good quality produce. However, this seldom, if ever, happened. Controls are given for a period of three to five years, which is considered long enough to consolidate a producers position in the domestic market. In practice "there is no known case in which the controls have been cancelled" (ibid., p. 74). The potential producer is thus favoured over the potential importer even if the domestic product is not competitive in terms of quality or price.[1]

There is also no mechanism, such as competitive bidding for licenses, to ensure that the licenses shall be granted to the most efficient businessman. "The possibility of dispensing import permits in a discretionary manner, has

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[1] This is in part explained by the way licenses are awarded. Import license applications are considered by Advisory Committees. A typical committee consists of representatives of the Ministry of Commerce and Industry, and the Chambers and Associations whose interests are likely to be affected.

created opportunity for monopolistic gains, with the result that real resources are channelled into competition for the acquisition of permits." (ibid., p. 95).

The number of licenses to be processed are enormous. In 1973 these were over 250,000 (Solis, 1981). Following the 1976 devaluation the number of licenses fell considerably. Protection continued to be high for electric and electronic machinery and equipment (122 per cent effective) and automobiles and parts (120 per cent).

In the early 1970s exports started to gain more attention from government. The Mexican Foreign Trade Institute was set up in 1970. The export-import link for automobiles was introduced in 1973. This encouraged domestic car manufacturers to export cars and parts in order to carry a greater portion of the foreign exchange costs involved in the importation of inputs themselves. In return they were allowed to sell more cars on the domestic market.

CEDI's (indirect tax refund[1] certificates) were introduced in 1971. They are given to exporters for products with at least 50 per cent local value added, are non-transferable, valid for five years and can be used to pay for certain federal taxes.

Mexico also operates a Maquila or border industrialisation programme. This programme allows the duty-free imports of all machinery and materials used in Maquila which are obliged to export all their products.

Republic of Korea: In the Republic of Korea fiscal incentives have provided support for selected "key" industries since the 1950s. Incentives mainly took the form of exemption from indirect taxes. These were estimated to be the equivalent of around 15 per cent of total indirect taxes assessed during 1966-71 and to around 27 per cent during 1972-76 (Hong, 1979). The amount of direct tax exemptions was much smaller and was no more than around 7 per cent of total direct taxes assessed during 1966-75. However, the fact that direct taxes make up only a small part of government revenue can also be explained as preferential treatment of firms (ibid.).

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[1] The refund includes import duties.

Quantitative import restrictions[1] have been much more important than tariffs in protecting import-substitution industries. Protection declined in the early 1960s but by 1967, 40 per cent of all commodities were still subject to restrictions (out of a total of 1,312 basic import items 118 were prohibited and 402 were subject to restrictions). The number of prohibited items was reduced to zero in 1978 and that of restricted items to 424. Altogether 40 per cent of all items were still subject to some kind of import restriction in 1978 (Chong Hyun Nam). Until 1978 the government also operated a system of advanced deposit rates which vary from 150 per cent for non-essential goods and luxury items to 30 per cent for raw material inputs for export production (ibid.).

Comparing data on protection for 1968 and 1978 shows some interesting features: (1) the weighted average of nominal rates of protection for all industries increased from 14 to 18 per cent; (2) the pattern of protection is biased in favour of the primary sector and against manufacturing (something, says Chong that seems unique among developing countries); (3) estimates of both nominal and effective protection show much greater variation among industry groups in 1978 than in 1968 (indicating that incentives provided to individual industries have become much more discriminatory).

Certain export incentives existed in the late 1950s, such as trade credits, the export-import link and tariff exemptions on imports of raw materials used in export production. However, the grossly overvalued exchange rate minimised their impact. Therefore, of all the export incentives introduced in the first half of the 1960s, the devaluation of the won was probably the most effective. In 1961 it was devalued from 65 to 130 to the US dollar and in 1964 to 255 won to the dollar. Thereafter frequent devaluations took place to compensate for the higher inflation rates in the country's main export markets.

The most important incentives available to exporters in the late 1960s were: unrestricted access to, and tariff exemptions on, imported intermediate and capital goods; access to lines of credit; exemption from payment of indirect taxes on major intermediate inputs, whether imported or domestically

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[1] And access to foreign exchange.

purchased, and on export sales. This allowed exporters to produce under a virtually free trade regime.

Other incentives can be regarded as genuine subsidies: the wastage allowance in certain raw material imports which permitted the use of some of these imports in production for the domstic market; reduced prices for electricity and railroad transport; a 50 per cent reduction in direct taxes on income earned from exporting; provisions for accelerated depreciation; and immediate access to subsidised credit to finance working capital and fixed investments. (Westphal, 1979).

Moreover the export-import link system that was already in use before 1960 allowed selected exporters to import certain popular items not otherwise approved for import.

This system remained virtually unchanged until 1973, when incentives started to be gradually reduced.

The Government's commitment to exports went much beyond the build-up of a series of incentives that have just been referred to. In particular, this manifested itself in the political and administrative backing for what Cole and Lyman call (p. 190) "an all-out government campaign to expand exports, typified by the constant setting of seemingly unattainable export targets, their attainment, and then the setting of even higher targets". This campaign found its driving force at the presidential level. President Park chaired monthly meetings to review the progress of the export drive attended by Cabinet members, business association leaders and individual businessmen. "Businessmen are asked to report their problems, difficulties and opportunities, and the government officials must respond before the president to criticisms of past government performance and recommendations for improvement." (Brown, p. 145).

An important role in the Republic of Korea's export drive was also played by KOTRA, the Korea Trade Promotion Corporation which was established in 1962. KOTRA located foreign buyers and introduced them to local suppliers; invited buyers to visit Korean industries; organised trade missions and conducted overseas public relations work; organised participation in trade fairs, etc. It also collected up-to-date information on general economic situations and export and import trends.

In the early days of its existence, it was also active in such activities as translations, analysing foreign trade laws and regulation and inspecting samples, or settling business claims between Republic of Korean and foreign firms. KOTRA expanded its overseas facilities from four offices in the beginning to 34 in 1970. In the 1970s KOTRA's activities became more sophisticated. It introduced through seminars to explain, for example, the workings of the GSP and how exporters could best make use of it (Sun Whan Chang, 1979).

When in 1975 the government felt that new markets needed to be "discovered" in order to diversify from its traditional markets (the United States and Japan) it encouraged the establishment of General Trading Companies (GTCs). These companies would handle their own and other firm's exports. They were allowed to set up branch offices abroad, to issue letters of credit and credit in advance of sales (Michell, p. 195).[1]

Government and savings

Accelerating economic growth and an emphasis on manufacturing industry obviously requires much new capital for investment. Where did that capital come from that allowed countries like Singapore and the Republic of Korea to grow at rates of over 10 per cent and over 15 per cent in manufacturing? And how was this capital "put to best use"? These are very crucial but also very complicated questions that would warrant separate studies on each of the four countries. On the other hand, they are too important issues to leave out completely. The next few paragraphs make an attempt to highlight some aspects

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[1] In Brazil Interbras, a subsidiary of Petrobras, developed along similar lines and became an important intermediary for export promotion. Among its other functions it offers a package of services to potential exporters such as the identification of commercial opportunities, preparation of project analyses, procurement services in Brazil and abroad and the formation of joint ventures with foreign companies to exploit markets abroad. Since 1976 companies exporting through Interbras have also benefited from certain insurance against export risks (Teitel and Colman).

In Singapore, Intraco (International Trading Company) was set up in 1968 by the government jointly with the private sector to develop export markets for local manufacturers. Perhaps because of a lack of domestic exporters its role has been limited and it has turned into an import/export trading company (Chia, 1984).

of the issues involved, and in particular the role of government, although at no point is there so much as a claim to completeness.

This section will touch upon two things. First, it will look at Singapore and the Republic of Korea where investments (as a percentage of GDP) were lowest in the early 1960s and highest by the end of the 1970s and ask how the capital to finance these investments was obtained. Thereafter it will briefly look at how governments have influenced the distribution of this capital to uses they considered prioritary.

In the Republic of Korea and Singapore investments as a per cent of GDP was very low in the early 1960s. Thereafter they accelerated rapidly to reach 40 per cent in Singapore and nearly 30 per cent in the Republic of Korea around 1980 (see table 44). This increase could never have been achieved without a large contribution of foreign savings and these made up a large part of the initial increase indeed. But whereas in the 1960s the contribution of foreign savings was extraordinarily high, the fact that investment could be maintained at such high levels was largely due to a spectacular increase in domestic savings.

In the 1950s the Republic of Korea's economy depended to an extraordinary extent on foreign (mainly United States) aid. Aid averaged 8.1 per cent of GNP between 1953 and 1962 and reached levels as high as 14 per cent in 1956 and 16 per cent in 1957. Most of this aid arrived before the high growth period started though, and in fact rapid industrial and investment growth occurred simultaneous to the rapid decline in the absolute and relative (as a per cent of GNP) level of aid. By 1966 aid made up "only" 2 per cent of GNP, in 1969 it was 1 per cent and after 1971 it was less than 1 per cent (Hong, 1979).

The high dependency on foreign savings in the 1960s (9 per cent of GDP, or nearly 50 per cent of the total) is thus explained by receipts other than aid, and by private and public borrowing in particular. Foreign investment, as we shall see in the next chapter, made up only a small portion.

In the first half of the 1970s the high level of foreign savings was maintained (8 per cent of GDP between 1970 and 1976) but thanks to a drastic increase in domestic savings it financed little more than 30 per cent of

Table 44. Comparative data for semi-industrialised countries: Investment, savings and foreign capital flows

	Singapore			Republic of Korea			Mexico			Brazil		
	1960-69	1970-76	1977-82	1960-69	1970-76	1977-82	1960-69	1970-76	1977-82	1960-69	1970-76	1977-82
As percentage of GDP:												
Investment	19	41	40	19	26	29	20	25	25	22	26	21
Domestic savings	13	23	31	8	18	25	18	21	25	22	23	19
(public)	7	9	-	2	13	-	3	2	-	4	5	-
(private)	7	14	-	7	5	-	15	18	-	18	18	-
Foreign savings	7	18	9	9	8	4	2	4	-	1	3	2

Sources. Bergsman (1979, p. 20); IBRD: World Development Report, 1984.

investments. (By 1980 this was no more than 13 per cent.) Foreign investment arrivals increased in the early 1970s but among capital inflows loans were still over nine times as high (Bergsman, 1979).

Singapore also relied heavily on foreign savings to finance its investment in the 1960s. These financed 37 per cent of investments in the 1960s (but much more in the second half of the decade when investments accelerated). In the early 1970s foreign savings became the equivalent of 18 per cent of GDP. They financed 44 per cent of all investments between 1970 and 1976. In later years they dropped to 9 per cent of GDP or 22 per cent of the total. In contrast with the Republic of Korea, however, most foreign savings took the form of direct foreign investments. In the 1970-76 period these were five times as important as foreign loans (ibid.).

A high foreign contribution to the investment effort was thus very important for the "take off", but the high level of investment was maintained thanks to drastic increases in domestic savings. These increased from 13 per cent of GDP in the 1960s to 31 per cent of GDP around 1980 in Singapore. In the Republic of Korea this increase was even more spectacular. Domestic savings there went up from an average of 8 per cent in the 1960s to 18 per cent(!) in the early 1970s and 25 per cent in the late 1970s.

To a large extent a higher proportion saved is a "normal" phenomenon that accompanies economic growth and higher income. Yet this was also the result of policy. Examples of this are the interest and tax reforms that the Republic of Korea initiated in the 1960s.

Real interest rates in the Republic of Korea were negative in the early 1960s as a result of high inflation and savings were low. In order to stimulate savings, government doubled interest rates on bank deposits in 1965. The result was stupendous. Time and saving deposits increased from 9,000 million won in September 1965 to 50,000 million won by the end of 1966 and to 617 bn won by the end of 1972 (Kuznets).[1]

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[1] No doubt some of the increase was due to funds diverted from the unorganised "curb" market into the official circuit, but much of it must have been genuinely new savings. Moreover, not all private savings may have responded so positively to higher interest rates. Another source of savings, retained profits, may well be negatively correlated with them.

A tax reform had equally remarkable effects. The Republic of Korea had a fairly comprehensive and elaborate tax legislation by international standards but until the mid-1960s, enforcement was the main problem. Tax revenue was low due to a lack of tax payer records, arbitrariness of tax collection assessments and corruption (Brown, p. 63). When a first series of measures aimed at increased revenue failed, government in 1966 set up a new Office of National Taxation. The job of director was given to one of the closest aides of the president who gave him his wholehearted support. The new director brought a radically new approach to tax collection. He started with a reorganisation, threw out corrupt officials, kept permanent files on the remaining ones, and set up an internal audit and security system. Information on taxpayers and new enterprises was systematically collected. Inspectors operating in pairs did field surveys to see whether apparent wealth of households and businesses corresponded with their tax returns. Simultaneously, large taxpayers received public praise from the president. Seminars were organised for businessmen and accountants to explain how to file returns. A public campaign explained the purpose of tax paying and showed what was done with the money (Brown). Tax revenue went up very fast after 1965. In 1968 taxes, as a percentage of GNP, were 14.4 per cent or nearly double the figure for 1964.

In Singapore many savings are generated through the forced savings route of (social security) contributions to the Central Providence Fund. These have steadily increased over the years and (today) capture no less than 40 per cent of earned income (20 per cent employers and 20 per cent employees contributions). Tax collections improved thanks to a stricter enforcement of the law. The share of the workforce that pays income tax in Singapore went up from less than 10 per cent at independence to 40 per cent in the early 1980s.

Brazil, which has suffered since a long time from high inflation, introduced indexed government bonds in 1965. These bonds which yielded around 5 per cent in real terms were a great success. They caused an "hausse" in indexed saving instruments in the private sector as well, such as real estate bonds, deposits in private savings and loan associations, time and saving deposits. The government sector, however, was more attractive for voluntary savings as, contrary to the private sector, it could offer post facto indexed savings, which is of course a huge advantage in a high inflationary environment (Graham, 1978).

Brazil also carried out tax reforms in the mid-1960s. A value added tax was introduced, income taxes were modernised and the administration and enforcement of tax collections were greatly strengthened. The number of taxpayers greatly increased. Whereas in 1965 only about 350,000 people filed tax returns (out of a population of 80 million), this had increased to 7 million in 1970 and to 11 million in 1974 (Robock). Income tax receipts increased from 2.2 to 3.2 per cent of GDP between 1969 and 1974.[1]

Despite these "successful" examples, it remains a fact that increasing tax revenues may be one of the most difficult any but the toughest government can hope to achieve. In Mexico it has been tried twice in recent history and twice the government was unsuccessful.

Mexico's tax revenue as a percentage of GDP is low by international standards (see table 45). It was less than 8 per cent in the 1960s. This was not so much due to a low tax ratio (nominal personal income tax rises to 57 per cent) but more due to a narrow de facto base. Many sectors receive some form of preferential treatment and the rate of avoidance is high. The "cedular system" allows different sources of income to be split up to avoid progressivity, and the anonymity that allows bearer shares, bearer bonds and other means of acquiring anonomous wealth makes de facto assessment of somebody's wealth very difficult.

When the Echeverria government launched its reforms in the early 1970s it counted on increased government income to finance them. Its tax reform, just like the one that had been presented in the early 1960s, however, never received sufficient support to become law (Solis, 1981). As a result Mexico's tax income ratio to GNP is still among the lowest in the world.[2]

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[1] Bergsman (1979, p. 49) commented that it was interesting that no negative effects such as reduced private sector investment or capital flight occurred. This shows, he says, that in a context of high growth with considerable attention to private industry, "important and far-reaching tax reforms can be implemented at little or no cost in terms of private sector growth".

[2] In 1982 it had risen to 10.3 per cent when oil exports contributed about 35 per cent of the total (Comercio Exterior, Sep. 1984, Vol. 34, No. 9, p. 831).

Table 45. Tax effort and tax structure (per cent of GNP)

Country	Tax		Social security contributions	Total taxes + social security contributions	Tax
	1966-68	1969-71		1969-71	1972-76
Brazil	20.8	22.9	(5.83)	(28.7)	18.1
Mexico	6.8	7.1	(2.06)	(9.2)	8.6
Singapore	11.8	13.2	(2.17)	(15.4)	15.7
Republic of Korea	12.6	15.4	-	(15.4)	13.6
Average 47 developing countries	13.6	15.1			16.1

Sources. Tax ratios and tax effort in developing countries, 1969-71, by Raja J. Chelliah, Hessel J. Baas and Margaret R. Kelly, IMF Staff Papers, Mar. 1975, Vol. XXII, No. 1, pp. 187-205; and Alan A. Tait, Wilfrid L.M. Grätz and Barry J. Eichengreen: "International comparison of taxation for selected developing countries, 1972-1976", in IMF Staff Papers, Mar. 1979, Vol. 26, No. 1, pp. 123-156.

Among the many other forms of savings one other source of government revenue should be mentioned: public enterprise. With the exception perhaps of public oil exporters these tend to be a drain on the State budget of many countries. Not so in Singapore, however, where they are run for profit and are an important source of government income. Between 1960 and 1980 they contributed between 15 and 20 per cent of the total.[1]

Government as banker

In an environment where capital is scarce and its social use so crucial for development, it is understandable that governments have wanted to keep a close eye on financial institutions so as to avoid abuse of power and to increase their effectiveness. They want to act as referee, using criteria of

[1] The government also invests in bonds and securities at home and abroad. Interest and dividends from these investments contributed about 5-8 per cent of total revenue in the period (Lim and Pang).

social profitability, to decide which of the competing demands should receive priority. It comes thus as no surprise that in many countries this concern has led to direct state participation in the financial intermediaries. This has given them the possibility to directly influence the allocation of loans and integrate this instrument in their overall development strategy. It allows them to allocate funds where they will be "most productively used" taking into consideration long- and short-term, private and national welfare considerations. The effectiveness of government in shaping the economy and industry according to its priorities depends, of course, on how important State-controlled finance is compared to other domestic and foreign sources. On the other hand, by only intervening in activities that have a low private, but a high social profitability, its marginal influence may be considerable. The next paragraphs will consider some of governments' efforts to control capital for investment.

Mexico was in a very poor financial situation following the revolution. Yet in the spirit of the revolution it was determined to keep banking under national control. Foreigners were excluded from ownership of domestic banks and foreign banks were forbidden (Bennet and Sharpe). Private banks were slow to develop and thus the first banks were the state banks. Among them was the Nacional Financiera SA (or NAFINSA) which was created in 1934, and which after its reorganisation in 1940 became the State's principal development bank.

Its main function was and is to channel finance (or to guarantee loans), predominantly long term, to sectors that are fundamental to the country's economic growth. Its impact on industrial development has been considerable. It has been estimated that since 1950 between one third and one half of the banking system's total financing of industry originated in NAFINSA (Bennet and Sharpe, p. 183).

Already in the early 1960s NAFINSA held stocks in 60 industrial firms and it was a majority shareholder in 13 firms producing steel, textiles, motion pictures, plywood, paper, fertilisers, electrical energy, sugar, lumber and refrigerated meat (Bennet and Sharpe, p. 186).

NAFINSA is not wholly State-owned. It has the name of being a well run, competent organisation within the parameters set by the government. When it is criticised, it is rather for supposedly taking away profitable

opportunities from the private sector. It obtains its funds from borrowing at home and abroad.

In Singapore the main source of development finance has been the Economic Development Board and its off-shoot the Development Bank of Singapore. The DBS which was only created in 1968 had by the late 1970s become the largest commercial bank in Singapore. The DBS is also not wholly State-owned, and its stocks are traded on the Singapore stock exchange. DBS participates in equity of manufacturing firms in desirable industries. It also provides medium- and long-term loans as well as guarantees loans raised by investors from commercial banks. The application of commercial viability as a criterium for lending means that a considerable share of its investments goes to financing foreign enterprises(!).

In Brazil the Government is a formidable force in banking. This is true for both the central and the State governments. In 1972, government banking accounted for 55 per cent of total deposits and 58 per cent of all loans to the private sector (Mehmet, p. 157). The State-owned Banco do Brasil is by far the largest commercial bank in the country. In 1972 deposits at this bank were nine times as big as that of the leading private bank (Robock). In addition there are the state and regional development banks and a network of state savings banks.

Over 70 per cent of loans for development purposes between 1964 and 1976 originated in the state investment banks, such as the National Development Bank (BNDE), the National Housing Bank (BNH), the Bank of the North-East and the development banks of the individual states (Hewlett, 1979, p. 172). The BNDE alone was responsable for 18 per cent of Brazilian fixed capital investment (ibid.).

The BNDE is thus the most important single source of investment for industry. It was created in 1952 (Robock). Its annual lending operations stood at US$1,300 million in 1972 and, despite slower growth in the second half of the 1970s, at US$3,300 million in 1980.

In the absence of a private long-term capital market, the BNDE has been practically alone as a supplier of long-term loans to private domestic firms in the manufacturing sector (Werneck, p. 101). By controlling the BNDE, the

government has thus had an important means to guide investments into areas it considered prioritary.

In the Republic of Korea the Government controlled until recently virtually the whole banking system. It was majority owner of all the major commercial banks from 1945 to 1957 and after 1961 and also of specialised banks among which the Korea Development Bank. Only some small local banks and investment and savings finance companies were not government-owned, but they were subject to strict regulations (Hong). It is clear that in a situation like this, when foreign loans also need government approval or guarantee and when firms operate with very high debt/equity ratios, their dependence on banks and thus on the government becomes overwhelming. Virtually the only non-controlled source of finance in the Republic of Korea was the curb market which was estimated to account for 19 per cent of all borrowing, domestic loans accounting for 53 per cent and foreign loans for 29 per cent (Jones and Sakong, p. 101).[1] The considerably higher cost of curb loans never made them a viable alternative, nor a real chance to escape government control.

> "The knowledge that the government can cut off the credit tap at any time is sufficient for the operation of partial mutuality. The threat need only be carried out occasionally. Recognising the importance of this is central to understanding how business-government relations work in Korea." (Jones and Sakong, p. 109).

Conclusion

Each government has attempted to influence the growth and the structure of economic activity in a variety of ways. This chapter discussed three aspects of these attempts: the level of savings for investment, the distribution of the available funds, and the range of incentives that was used. It was found that the degree to which policy interventions were planned and co-ordinated varied considerably per country. Not surprisingly perhaps, this was greater in the smallest country, Singapore, and smaller in the larger countries,

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[1] Figures for the period 1963-74. "Over the entire period, only 14 per cent of the cash flow came from new equity. Another 20 per cent was generated internally, but two thirds came from borrowing." (ibid.).

Brazil and Mexico. Their large size causes many problems with collection of data, which are a necessity for an accurate and proper planning exercise, and the simple fact that many more officials are involved goes a long way in explaining why co-ordination is more difficult there than in a country like Singapore with a small civil service. The high degree of autonomy of different government sectors is another hampering factor.

However, to a large extent this low level of co-ordination is also the result of policy. In Mexico for instance, during the years of "stabilising development" government interventions were few for practical, but also for ideological reasons. Yet in the absence of a clear, coherent strategy the shape of industry came to depend greatly on initiatives of individual businessmen who asked for protection to allow them to start production. Even if these were not very efficient and likely to remain so, they benefited from protection and were given priority over importers.

The Republic of Korea also protected individual industries and continues to do so to this day. However, it can be argued that contrary to Mexico this protection was better planned and that government and industry together decided which product would be protected and for how long.

Planning had an important place in the process of policy formulation and co-ordination in the Republic of Korea. In the early 1970s planning changed its character. In the 1960s the government had stressed the development of infrastructure and a general environment favourable to industry and had supported industries that emerged spontaneously. In the 1970s, the government began to take the lead much more and encouraged (heavy and chemical) industries in which the country was considered to develop "a comparative advantage". Whether or not this choice of industries was correct at the time, it is certain that planning errors became more costly. Huge amounts of funds were involved in promoting these industries which were faced with much unused capacity in the early 1980s. Success was thus not always obvious and it comes perhaps as no surprise that the Fifth Five-Year Plan announced a return to a more modest government role: "investment choices will be left to the initiative of the private sector, while the government will indicate only the general framework and direction in which such choice should be made." (EPB, 1981, p. 10).

Through stimulating and attracting savings, governments have acted to encourage industrial growth. They have increased government revenues and this has given them greater leverage over the direction of investment. They have also come to control an important part of the distribution of funds for investment through (part) ownership of (development) banks. When it came to exercising influence over the direction of investments, the Government of the Republic of Korea was in a particularly influential position as it managed both to substantially increase its income from taxation and to control virtually all the instruments of distribution, the banks. The Mexican Government, in contrast, has much less grip on the economy as it had (until recently) very little influence over the banking sector and because its income was low.

Governments have attempted to influenced the structure of the economy and industry. Incentives and investment decisions have favoured (manufacturing) industry over agriculture (although the degree to which this happened differs widely per country). Within industry too, certain sectors and products have been favoured over others. In broad terms, it can be said that Singapore and the Republic of Korea in the 1960s encouraged labour-intensive manufactured exports. Considering the limited options offered by their relatively small domestic market (and high unemployment) this seemed a logical thing to do. Protection of selective industries was provided in the expectation that within a reasonable period these would be able to export at a competitive level. In the 1970s when labour became scarce and wages encountered upward pressure their policies changed.

In Mexico and Brazil development objectives were defined in more general terms: rapid economic and industrial growth. For most of the time this meant encouraging import substitution industries. Export promotion was not really considered an option. After 1967 export promotion in Brazil was very much inspired by the (then) prevailing overcapacity of industry. After 1978 it was more and more a necessity because of the high debt servicing costs. Mexico had a similar problem but its oil exports provided both much needed foreign exchange earnings and a reason for postponing a new exchange rate adjustment.

In the four countries the choice between import substitution and export expansion proved thus more a matter of degree than a matter of principle. Singapore's economy comes closest to a free trade regime, but it did have a

brief import substitution period. Thereafter, protection was gradually reduced. The Republic of Korea for all its emphasis on promotion of manufactured exports still has a fairly well protected domestic market. Protection is much greater in Mexico though where in contrast to the Republic of Korea it came about in a rather haphazard, unplanned way. This is considered to have been among the main causes of its poorly integrated industry. Post-1967 economic policy in Brazil gave much attention to the opportunities offered by exports. The period of trade liberalisation was abruptly stopped in 1974 in response to its acute balance of payments problems. In later years exports gained an important place although the combination with selected protectionism has made the situation quite complicated for exporters. Judging by recent experiences the country seems to have succeeded though. Mexico also offered certain export incentives but inefficiencies proved hard to overcome.

Indeed, considering the high level of protection, the high price of certain products,[1] and the overvaluation of the peso during most of the 1970s it has been asked how Mexico's at times rapid manufactured export growth can be explained at all. In the late 1960s the bias against exports was already considerable. The effective implicit protection rate was -0.5 per cent for export activities against 39 per cent for import substituting industries (Solis, 1979). In 1975 the net anti-export bias was found to be 10 per cent.

The answer to the question why certain products were exported must then be looked at the level of the individual product. For instance, the rapid increase in the 1970s of exports of automobiles and parts, the single most important manufactured export item, can be explained by the advantages offered in compensation to producers on the domestic market at the time that the "global sourcing" drive of multinationals accelerated.

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[1] Comercio Exterior estimated (in 1983) that depending on the motor vehicle or part, the national produce had a price of between 30 and 100 per cent higher than the price of the same item abroad (Comercio Exterior, Nov. 1983).

Other "successful" export categories such as chemicals, pharmaceuticals, textiles and food products were to a greater or lesser extent based on locally produced raw materials. These raw materials often had a price that was lower than the international price due to export taxes and price controls. These manufactured exports were thus in a way "subsidised" by the agricultural sector.

The case of Mexico illustrates two important aspects of incentives. First, that incentives to one sector, industry or product almost automatically imply a disincentive to other sectors, industries or products. Rarely is this so clear as in Mexico or in other countries where manufacturing benefited from agricultural price controls and export taxes but some other examples seem also obvious: an overvalued exchange rate that discourages exports; credit to industry that reduces the funds available to agriculture; protection of one product that raises the cost level of the producer who has to use the protected product as an input, etc.

In all these cases government intervention may be necessary and wanted, but in increasingly complex economies this can lead to extremely complicated situations as the earlier mentioned example of Brazil illustrated. A government that wants to give equal chances to individual entrepreneurs, or at least does not want them to spend large part of their time lobbying for privileges might want to come up with a plan, a coherent strategy which shows what the rationale for its intervention is and how each of these form part of a whole.

The second aspect is that sufficient incentives by definition will end up by altering entrepreneurs' original cost-benefit assessments in favour of production (or export). If sufficient protection, cheap credit, cheap inputs are offered, production (or export) will eventually ensue. If it does not, this can be taken as an indication that incentives were not enough to counterbalance other "negative" influences.

An example of cases where tax incentives were <u>not</u> sufficient is those offered to encourage decentralisation in Brazil and Mexico. If anything, concentration seems to have increased there. Favourable infrastructure, nearness to skilled workers and main markets were obviously stronger than incentives offered. That some industrialists did use the incentives offered,

but in their own way, is illustrated by the large number of empty factory buildings in Brazil's North-East. In Mexico, lobbying for licences and other government favours is such a time-consuming effort that it has been named as yet another reason for industry remaining close to the Districto Federal.

But in many cases governments have been successful in shaping the structure of production and exports as they wanted them. Ramirez de Wallace found that in Mexico at the level of the individual industry there was a high colleration between protection and growth, as well as between protection and import substitution. In Singapore, government's low wage policy and a series of incentives led to a boom of labour-intensive manufactured exports in the late 1960s. Production of ships in the Republic of Korea, and of automobiles in Brazil and Mexico reacted favourably to the incentives offered.

Incentives, however, can be very costly. States have only limited budgets and if they want to favour some industries they are forced to neglect others. The crucial question that arisis is thus: were incentives offered too generous for the results obtained? Although this question cannot be answered with any precision, some remarks can be made.

Incentives contributed to very high growth of some import-substituting industries in Brazil and Mexico and exporting ones in Singapore and the Republic of Korea. On closer inspection we see, however, that in many of the high growth industries such as automobiles, pharmaceuticals, domestic appliances in the two Latin American countries and virtually all principal export industries in Singapore there is a high correlation between rapid growth and presence of multinational enterprises (MNEs). Although this concentration of MNEs is in large part explained by characteristics of the industry - level of technology, marketing skills - it seems proper to make a distinction between the effect of incentives on national and international capital.

Internationally, it may be felt that a country must offer certain incentives to compete with those offered by other countries. However, several authors (e.g. Chia, Billerbeck and Yasugi) have asked whether incentives are really that important compared to location, domestic market size, availability of skilled manpower, infrastructure, attitude of government, and so on. Probably the nature of the industry plays a role here too. Perhaps such

incentives as tax exemptions are necessary because surrounding countries offer them too, but their value may be only symbolic: they have a certain advertisement value, or, as Chia has argued, they signal the government's welcome of foreign investment. Their value to the foreign investor may be relative considering that the extra profit made now may be taxed later in the home country.

Domestically the case may be quite different. The domestic investor has to accept the domestic economic and political framework as given. In his case incentives may be efficient in guiding his decisions to invest in a particular industry that is tax exempted. However, to some extent his decision whether to invest in manufacturing at all will still be guided by some of the factors that international investors consider. He may want to leave his money in real estate, land or put it into a bank account abroad. It can be argued that in a country where few of these alternatives exist (such as the Republic of Korea) incentives need to be fewer to achieve desired results than in countries where these do exist (such as Mexico with the convertible peso and the long, difficult to control, border with the United States).

In any case, there seems good reason for looking critically at the cost effectiveness of incentives. In countries where, for other reasons, government revenue is small anyway, a tax exemption may dramatically reduce spending capacity in other critical areas. Billerbeck and Yasugi (p. 17) have argued that "better general economic policies" may attract the same amount of investment at lower cost.

A "sound general investment climate" and a more active, welcoming approach could pay better results. This could include initiating and financing feasibility and pre-feasibility studies and, in general, helping potential investors work their way through local administration.

Chapter 4

ENTREPRENEURS AND ENTERPRISES

This chapter will deal with the question of how entrepreneurs have contributed to industrial development in the four countries considered here. There is no doubt that somebody who is capable of identifying and seizing opportunities for profit, is willing to take considerable risks and thinks in terms of reinvesting income is crucial to economic development. However, it is not easy to determine who is a successful entrepreneur and who is not. Perceived "success" may not have been the result of specific entrepreneurial qualities or behaviour, but rather due to special "accidental" factors such as access to a crucial raw material or patent, preferential treatment by government or being the sole seller in a rapidly growing market. The opposite is also possible. A brilliant entrepreneur may never be recognised as such when he is locked in a declining market or forced to operate in an environment that discourages initiative and does not appreciate entrepreneurial success.

In practice, and at the aggregate level that is by necessity our approach to the issue, the behaviour and the success of the entrepreneur must be considered through the performance of the enterprise he or she manages. Therefore, after a few introductory remarks on the nature and the supply of entrepreneurs, we will concentrate on enterprises and in particular privately-owned domestic enterprises. It is the domestic private enterprise rather than foreign or public enterprises that faces the full range of constraints including access to capital usually associated with economic and industrial development.

Taking the domestic private enterprise as a proxy for entrepreneurial behaviour although justifiable on practical grounds, is not necessarily correct on logical grounds. Some public enterprises are profit-making and are operated as if they were private. Domestic enterprises may well employ many "expatriates" in high function just as foreign enterprises may employ almost exclusively national managers. Singapore's industry, for instance, is dominated by foreign companies, but 80 per cent of the administrative and managerial positions in these are held by Singaporeans (Lim and Pang). However, these enterprises differ from their domestically private owned counterparts in one crucial aspect: access to capital.

Having selected private domestic enterprise as the focus of this chapter, it should immediately be added that, in manufacturing at least, its role has shown continuous decline in all four countries. In some this was a marginal change (e.g. the Republic of Korea), in others (Singapore) they ended up with little more than a supportive role. For practical reasons it seemed therefore better to give priority to a discussion of the growing importance of public and foreign enterprises, as by implication this explains in large part what happened with privately-owned domestic enterprises. Thereafter these findings will be contrasted with the situation of the Republic of Korea, the only one of the four where the industrialisation process was largely led by the domestic private sector.

The entrepreneur

Why do some countries appear to have more, and more active entrepreneurs than others? This question has been approached in a number of ways, each reflecting in a sense a different school of thought. There are those who consider that the supply of entrepreneurs is the result of some "objective" factors. Others claim that the supply is basically the same in all countries, but that certain policies or institutional factors have prevented them from "coming to the surface". Yet others consider that the supply has little to do with domestic factors as it has depended to a considerable extent on the inflow of foreigners.

The first school points to differences in climate, religion or indeed racial origin, to explain why a certain people is more "entrepreneurial" than another. According to this a temperate climate would be more favourable than a tropical one, for instance.

Religion is considered particularly important. Much of northern Europe's successful economic development would be explained by Calvinism. Max Weber, who noticed that the industrial revolution took place first in protestant countries, argued that the rise of industrial capitalism had its roots in the protestant ethic. Early protestantism, and Calvinism in particular, stressed the virtues of hard work and saving. The Calvinist thus worked not merely for worldly ends, but because business success was a sign of spiritual grace. According to Weber, this belief provided the psychological foundation for the creation of a large class of entrepreneurs. "It gave them the necessary

self-discipline to devote themselves, heart and soul, to their occupation." (Habahkuk, 1981, pp. 16-17; and Chiew , 1983).

A more modern version of this kind of argument is the reference sometimes made to Confucianism as an explanatory factor for the high quality of entrepreneurial supply in certain fast-growing East Asian societies. Certain virtues in Confucianism are considered particularly supportive to growth, such as "respect for education as a vehicle for self-improvement; inculcation of qualities of hard work, diligence and self-discipline; ... and ability to subordinate self and participate effectively in a hierarchical structure yielding a synergetic effect on output" (Jones and Sakong, pp. 302, 303).

But, say Jones and Sakong (p. 303), the notion that the Confucian heritage is growth-supporting, is of a course open to the charge of "ex-postism", since 20 years earlier it was viewed by many as the curse rather than the cure. Moreover, reference to Confucianism does not explain the differences in economic growth among Confucionist countries. It does not explain why the biggest "Confucionist" society (the People's Republic of China) grew so much slower than some of the fast-growing countries surrounding it.

The second school considers that each country is more or less equally equipped with potential entrepreneurs, but that government policies and certain institutional factors keep them away from opportunities to prove themselves. Government policies that interfere too much with the economy through regulations and participation, would discourage potential entrepreneurs from taking initiatives. In contrast, a government that limits its interference and makes available certain incentives would encourage entrepreneurs.

To some extent the previous chapter has tried to deal with this issue. Yet why would someone want to enter industry? Expected earnings may be a factor, but so is prestige. What is the social status of an entrepreneur in societies where an academic (or a football) career are valued higher? Governments may try to influence the social status of the entrepreneur and so indirectly industrial activity. The importance that the Government of the Republic of Korea attached to business success in the "economic war" it was staging with its northern neighbours is reported to have contributed much to the social standing of businessmen and helped break down the traditional aversion to business activity (Jones, Sakong).

Among the institutional factors, distribution of income and wealth and the degree of social mobility are also considered to explain differences in entrepreneurs' supply. In a highly stratified society busines leaders are recruited among the elite. By definition this is a small group and thus the number of potential entrepreneurs is limited. Someone who is born in one of the lower social classes with no prospect of moving upward may possess many promising entrepreneurial skills. Yet his success may never go beyond selling 50 per cent more matches, plastic toys or magazines than his nearest competitior in the street where they both sell these items on the pavement. The wider the circle fom which a country draws its businessmen, the more likely it would seem to produce great entrepreneurs.

Foreign, and to a lesser extent public, companies would have a favourable influence here. When privately owned domestic enterprises are dominated by the extended family and their organisational structure reflects the social structure in society, foreign and public companies may offer more upward mobility. A foreign-owned company may feel less bound by the prevailing social structure and may recruit managers on the basis of merit instead. However, the degree of mobility will then be influenced by access to education, which may still be highly uneven, of course. A similar situation may evolve in public enterprises although it will be limited by the extent to which the business and political elite are identical.

There is some evidence that confirms that entrepreneurs are not drawn at random fromm the population as a whole and that certain socio-economic groups (basically the pre-industrial and industrial élites) are over-represented. The sample is too small, however, to bring out any clear differences between those countries with a more even income distribution and those with a less even one. A survey of 109 Mexican business leaders taken in the 1950s found that 75 per cent described their fathers as white-collar workers, managerial, large proprietors, professionals or military (Kobrin). A sample survey taken in the 1960s found that the majority of entrepreneurs' fathers had been industrialists (43 per cent) or merchants (24 per cent). Others reported that their fathers had been employee, or civil servant (13 per cent), professional man (9 per cent), or agricultural landowner, "rentier" or banker (11 per cent). Nobody had had a worker or peasant father, but this had been the profession of 8 per cent of their grandfathers (de Rossi).

A survey of (mainly small) private entrepreneurs in Singapore found that 31 per cent of the entrepreneurs were formerly commercial traders, 24 per cent were former employees of commercial firms and 22 per cent were engineers and technicians; factory workers and artisans comprised 9.3 per cent of the total (Ch'ng Hak Kee quoted in Pang and Tan, p. 168).

In the Republic of Korea a survey found that 21.4 per cent of entrepreneurs' fathers were landlords, 25.4 per cent independent farmers, 31.4 per cent owners of industry or commerce and that 16.4 per cent of the fathers had a government, teaching or professional background. Only 2 per cent of the fathers were tenant farmers or blue-collar workers (Jones and Sakong).

In both the Mexico and the Republic of Korea survey a high correlation was found between entrepreneurial success and level of education. In the Republic of Korea, the traditional elite which had disproportionate access to education was found to correlate highly with a position within the entrepreneurial elite. Seventy per cent of entrepreneurs had some college education, compared with only 20 per cent of the male cohort (Jones and Sakong). In Mexico, 63 per cent of those from the industrial establishment were educated abroad (de Rossi).

It seems that a policy aiming at increasing entrepreneurial supply could well start with broadening the access to educational opportunities.

Foreigners are a third factor that is considered to have influenced entrepreneurial supply. By foreigners we mean immigrants who come to stay rather than the expatriate manager who returns home at the end of his contract. Their influence is explained by the know-how and experience that they bring along, but also by the fact that they are less deterred by tradition and values of the country that receives them. The first factor relates of course to people who had a business or exercised a skilled job in their home country. In a host country where initiative and skills are in short supply they have a comparative advantage. The second factor is related to the socio-cultural issue discussed above. The foreigner is not inhibited by the existing social structure in which there is not really a place for him. He/she would thus be both more free and allowed more freedom to take the initiative.

The available evidence seems to indicate that the role of immigrants has indeed been important. Brazil is virtually and Singapore is a wholly immigrant country, and in both immigrants (and their descendents) play an important role in industry. Although a large part of Mexico's original population is still alive, Mexico too has many characteristics of an immigrant country, particularly among its upper and middle classes. But the term immigrant becomes of course a relative one as the years go by. "Some of the earliest investors to settle in the country eventually adopted Mexican citizenship after having founded firms which are now regarded in every sense as truly Mexican." (de Rossi, p. 143). A sample taken by de Rossi around 1970 of the largest privately owned enterprises in Mexico, found that a large number of entrepreneurs who were born abroad or of foreign origin were over-represented. Twenty per cent of them were born abroad and if one would go back to their parents and grandparents, 44 per cent of the industrialists were of foreign origin (p. 144).

Even for the Republic of Korea that has virtually no non-Korean immigrants, it was found that refugees from the North were heavily over-represented among entrepreneurs and managers. Among entrepreneurs the ratio of Northerners to their male cohort was nearly five, and among managers it was over three (Jones and Sakong).

The enterprise structure

In each of the four countries the room for domestic private enterprises in manufacturing has decreased over the years at least in relative terms. In the two Latin American countries this has resulted from faster growth of both public and foreign enterprise. In the two Asian countries the latter was above all responsible. For Singaporean entrepreneurs this has meant that their role has become secondary to that of foreign investors. In the Republic of Korea it has meant that the share of Republic of Korean entrepreneurs has come down slightly from a previously very high level. Yet even today the private domestic sector remains by far the most important there.

It is not easy to asess the precise importance of private domestic, public and foreign companies in the economy. This is so for two reasons. First, sample surveys tend to consider only the top 100, 1,000 or 5,000 or so companies. Since private domestic enterprises tend to be relatively small,

their influence tends to be understated particularly in the smaller surveys. Second, the relative importance of each tends to differ considerably depending on whether the surveys are based on assets, sales, or number of employees. State companies can be very capital-intensive and they assume thus disproportionate weight in a distribution according to assets. Foreign-owned companies are mainly found in the modern sector. They use sophisticated technologies, relatively little labour, and their weight tends to be overestimated in a distribution by sales. Private domestic enterprises employ relatively many people. Their importance therefore appears higher in a distribution according to number of workers.

In all four countries foreign ownership is concentrated in manufacturing. This is as much the result of legislation that excludes foreigners from certain other sectors as of the fact that manufacturing was the sector that offered the best growth possibilities.

Within manufacturing in Brazil and Mexico a typical enterprise structure evolved. State enterprises came to be concentrated in basic and intermediate goods such as primary metals, petrochemicals, etc., where capital requirements are large, where technology may be fairly advanced, and where foreign firms showed little interest. Foreign firms tend to be found mainly in sophisticated consumer durables and certain capital goods, such as automobiles and domestic appliances, where they had an advantage in terms of access to technology and capital, and where management and advertising skills were important. Private domestic capital tends to be left with the more traditional consumer goods such as textiles and clothing, footwear, food products, furniture, where access to capital and technology, and management skills are less important.

In the Republic of Korea, where the enterprise structure is dominated by private domestic capital, the State invested in steel, petrochemicals and fertiliser. Foreigners have become important exporters of electronics and to a lesser extent of textiles and clothing. In Singapore the large majority of manufacturing output and exports originates in foreign companies which also employ most people. Only in food, beverages, tobacco, leather, plastics, cement and fabricated metal has a sizeable domestically-owned sector developed.

Only on Brazil and Singapore are "precise" data available about the relative importance of different types of ownership. In Brazil regular surveys are held to assess the share of each. A survey of the 5,113 largest firms showed that in 1974, for example, over 37 per cent of net assets belonged to public enterprises, 15 per cent to multinational corporations and 48 per cent to private Brazilian firms. Using sales as a measure, State firms controlled 16 per cent, multinational corporations 28 per cent and domestic private firms 56 per cent (Hewlett, 1979).

Werneck (p. 86) confirms the picture on Brazil presented above. He gives data based on a large survey of 6,430 non-financial enterprises taken in 1978 that tried to take account of both turnover and assets (table 46).[1] According to this survey the public sector had a majority share in iron and steel, refinery and heavy petrochemicals. Foreigners had a majority share in electric and electronic goods, transportation goods, other chemicals and pharmaceuticals and between one third and one half of non-metallic minerals, non-ferrous metals, machinery, rubber, leather and plastics. In all others private domestic firms had majority shares.

In Singapore very drastic changes have taken place in the enterprise structure. Upon independence most of the 548 manufacturing enterprises were small, locally-owned and producing for the local market. The number of establishments has meanwhile multiplied by six. The majority (74 per cent) of them are still locally owned but most of their produce is now exported. The weight of wholly or majority foreign-owned firms in sales has not ceased to increase. In 1981, foreign firms employed nearly 60 per cent of the manufacturing labour force, accounted for 76 per cent of output, 67 per cent of value added and 87 per cent of direct exports (table 47).

The next two sections will discuss how and why public and foreign enterprise have come to take up such an important place in each economy.

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[1] As it used rather broad sector definitions it understated the importance of foreign enterprises in certain narrow product groups.

Table 46. Brazil: Foreign, public and private domestic enterprises' sectoral shares, 1978

Sectors	Sectoral shares		
	Public	Private domestic	Foreign
1. Agriculture and livestock	0.067	0.906	0.027
2. Non-fuels mining	0.573	0.372	0.055
3. Mineral fuels extraction	0.993	0.007	0.0
4. Non-metallic minerals	0.0	0.649	0.351
5. Iron and steel	0.61	0.329	0.059
6. Foundry and metal processing	0.013	0.796	0.191
7. Non-ferrous metals	0.027	0.592	0.381
8. Machinery	0.037	0.563	0.400
9. Electric and electronic goods	0.0	0.436	0.564
10. Transportation goods	0.042	0.324	0.634
11. Wood and furniture	0.0	0.954	0.046
12. Paper pulp	0.251	0.548	0.201
13. Paper and cardboard	0.038	0.809	0.153
14. Rubber, leather and plastics	0.0	0.642	0.358
15. Fertilisers, alkalis and others	0.245	0.319	0.436
16. Alcohol and vegetable oils	0.015	0.887	0.098
17. Refinery and heavy petrochemicals	0.802	0.085	0.113
18. Other chemicals	0.037	0.373	0.590
19. Perfumery and pharmaceutical	0.016	0.387	0.597
20. Textile, clothing and footwear	0.023	0.853	0.124
21. Food, beverages and tobacco	0.014	0.790	0.196
22. Printing, publishing and others	0.045	0.907	0.048
23. Electricity	0.987	0.013	0.0
24. Water and sewage	1.000	0.0	0.0
25. Construction	0.089	0.907	0.004
26. Commerce, storage, road and air transportation	0.132	0.678	0.190
27. Rail transportation	1.000	0.0	0.0
28. Waterborne transportation	0.548	0.409	0.043
29. Communications	0.940	0.060	0.0
30. Other services	0.162	0.783	0.055

Source. Werneck.

Table 47. Singapore: Principal statistics of manufacturing by capital structure, 1975-81

Legal status of establishment	Number of establishments		Number of workers		Output		Value-added		Direct exports		Capital expenditure		Average output per establishment	Average employment per establishment	Average capital expenditure per establishment	Average value-added per worker	Average proportion of output exported
	No.	%	No.	%	$m	%	$m	%	$m	%	$m	%	$'000	No.	$'000	$'000	%
1975																	
Total	2 385	100.0	191 528	100.0	12 610.1	100.0	3 411.1	100.0	7 200.7	100.0	622.6	100.0	5 287.3	80	261.0	17.8	57.1
Wholly local	1 595	66.9	62 903	32.8	2 276.5	18.0	828.4	24.3	641.8	8.9	129.0	20.7	1 427.2	39	80.9	13.2	28.2
Majority local	265	11.1	29 038	15.2	1 346.2	10.7	444.3	13.0	500.6	7.0	91.3	14.7	5 080.1	110	344.4	15.3	37.2
Minority local	228	9.6	39 211	20.5	1 901.5	15.1	521.4	15.3	1 295.6	18.0	108.7	17.5	8 339.8	172	476.6	13.3	68.1
Wholly foreign	297	12.5	60 376	31.5	7 086.0	56.2	1 617.1	47.4	4 762.7	66.1	293.1	47.2	23 858.6	203	989.0	26.8	67.2
1980																	
Total	3 355	100.0	285 250	100.0	31 657.9	100.0	8 521.9	100.0	19 172.9	100.0	1 861.9	100.0	9 436.0	85	555.0	29.9	60.6
Wholly local	2 153	64.2	80 262	28.1	4 943.6	15.6	1 624.2	19.1	1 357.3	7.1	264.3	14.2	2 296.1	37	122.8	20.2	27.5
Majority local	368	11.0	38 329	13.4	3 385.1	10.7	1 154.1	13.5	1 573.5	8.2	208.9	11.2	9 198.8	104	567.7	30.1	46.5
Minority local	318	9.5	52 861	18.5	4 736.8	15.0	1 133.2	13.3	2 535.7	13.2	246.8	13.3	14 895.6	166	776.2	21.4	53.5
Wholly foreign	516	15.4	113 798	39.9	18 592.4	58.7	4 610.3	54.1	13 706.3	71.5	1 141.8	61.3	36 031.8	221	2 212.8	40.5	73.7
1981																	
Total	3 439	100.0	281 675	100.0	36 787.1	100.0	9 720.5	100.0	22 375.3	100.0	1 966.8	100.0	10 697.0	82	571.9	34.5	60.8
Wholly local	2 177	63.3	79 778	28.3	5 309.9	14.4	1 865.8	19.2	1 394.5	6.2	337.3	17.1	2 439.1	37	154.9	23.4	26.3
Majority local	363	10.6	37 229	13.2	3 515.1	9.6	1 274.3	13.1	1 563.2	7.0	217.9	11.1	9 683.4	103	600.2	34.2	44.5
Minority local	323	9.4	44 101	15.7	7 409.4	20.1	1 301.8	13.4	4 430.4	19.8	188.5	9.6	22 939.2	137	583.6	29.5	59.8
Wholly foreign	576	16.7	120 567	42.8	20 552.8	55.9	5 278.6	54.3	14 987.2	67.0	1 223.1	62.2	35 681.9	209	2 123.4	43.8	72.9

Sources. Lim and Pang, based on: Singapore, Department of Statistics: Report on the Census of Industrial Production, 1975 (Singapore, Photoplates Private Ltd., 1976), p. 16; idem: Report on the Census of Industrial Production, 1980 (Singapore, Singapore National Printers, 1981), p. 4; idem: Report on the Census of Industrial Production, 1981 (Singapore, Namic Printers Pte Ltd., 1982), p. 4.

Public enterprise

The State has become an important participant in the production process. This may come as a surprise as all four countries are solidly in the camp of the free, capitalist world. The previous chapter discussed some of the reasons why the State has wanted to intervene in the economy. In many respects direct participation can be seen as one other tool in the hands of a development-oriented government. Indeed it has been argued that production of steel, petrochemicals and fertilisers is just one step beyond the provision of infrastructure such as roads, ports, electricity, etc. Some have even gone as far as saying that production of such products falls within a broader definition of infrastructure.

Some direct participation has thus resulted from conscious planning, but in other cases it was an ad hoc reaction to an unforeseen event. Two examples illustrate this.

The fact that most sugar mills in Mexico are State-owned can be considered an "accident". Mexico's policy of keeping sugar prices low to the individual and industrial consumer made production conditions progressively more precarious for Mexico's sugar mills. When bankruptcy threatened, government provided subsidies. These proved insufficient and in order not to interrupt the supply to consumers, the State came to take over an increasing number of them. In the early 1960s the State controlled five mills or 5 per cent of total production. By 1969 it owned 18, producing 31 per cent of production. By 1975, 31, or 51 per cent. By the late 1970s the government owned or managed 56 out of the 62 remaining mills (Dominguez, 1982).

Another example of a state at first reluctantly becoming involved in production is that of the Brazilian steel industry. Brazil has vast iron ore reserves, and a number of sources report that it was felt at an early stage that steel ought to be an important industry. In 1930 only a few small steel mills were in existence. Vargas, however, considered a large-scale integrated steel mill essential for the country's development. Although this was originally seen as a purely private venture, domestic capital proved unable or unwilling to come up with the required sum. The project, therefore, became a public one, and after long negotiations and using American technology and finance, the Companhia Siderurgica Nacional (CSN) built the large integrated

Volta Redonda Steel Plant. This plant was conveniently located halfway between the two largest cities in the country, and reasonably near the iron ore reserves of Minas Gerais.

With the establishment of CSN, not only did the state acquire an important role in industry, but also an endurable, tacit market division between private and public enterprise was set on reasonably clear lines (Werneck, p. 111). The former became engaged in the production of non-flat steel products, while the latter was made mainly responsible for the flat-rolled products. The changing pattern of industrial growth in the 1950s and the growing importance of the automotive, shipbuilding and canned food industry led to a tripling of demand for flat products between 1949 and 1959. As non-flat products grew less fast, government saw its participation in the industry increase.

Strong demand led to initiatives to establish two new plants: Cosipa in São Paolo and Usiminas in Minas Gerais. Again these were private and local government initiatives which, due to the large amount of resources required, became public enterprises. Since the inauguration of these mills steel production has kept growing, and in 1980 production attained a level five times higher than that of the 1960s. With a production of 15.3 million tons, Brazil had become a medium-sized world producer (Werneck, pp. 107-120).

Singapore: The State is a formidable force in Singapore's economy. There are about 180 public enterprises (Seah). State monopolies provide all utilities, telephone and postal services, post and airport services, industrial estates and radio and television. Government ministries provide a large part of medical and health services, and all education from primary to tertiary level. The State Housing and Development Board houses nearly three-quarters of the population in public housing estates (Lim).

The State is part owner of the Development Bank of Singapore and INTRACO, the large trading and investment company. It owns 75 per cent of all the land in Singapore; the national shipping line, Neptune; and the national airline SIA (which alone contributes 3 per cent to GDP).

In manufacturing it also has a large presence: in 1975 public limited liability companies accounted for 17 per cent of value added and 16 per cent (or 30,000) of all workers in manufacturing. Government can be full owner,

majority owner but may also take a minority stake. Important public investments are and have been in shipbuilding and repair, and iron and steel. The reasons for participation have varied and have differed according to the investment made. The takeover and conversion of the shipbuilding and ship repairing facilities, for instance, to become the Keppel and Sembawang shipyards was taken in response to the British withdrawal from their naval base, in an effort to prevent the facilities standing idle (Seah).

The importance of the state has gone down in more recent years and contributed only 12.4 per cent of value added and employed 10 per cent of the labour force (or 28,000 people) in manufacturing in 1981 (Lim and Pang).

Mexico: Even before the recent takeover of the banks (which made the State at the same time owner of many non-financial institutions, including manufacturing enterprises) the State was an important participant in the economy. Apart from certain public utilities and other "typical" infrastructural activities it is present in mining (sulphur, copper refining) banking, petroleum, retailing, etc. Its presence has grown steadily since the 1930s (the railways were expropriated in 1937 and the oil industry in 1938).

After 1970 government participation accelerated. Between 1971 and 1975, public investment made up 57 per cent of all investment in manufacturing. It was only 20 per cent in 1971, but reached 80 per cent in 1974 and 1975! The number of state enterprises jumped from 86 in 1970 to over 700 in the late 1970s (Schagheck).[1] In 1976 government participation in the economy was estimated at 45 per cent (ibid.). Public enterprise employed 626,000 workers or about 4 per cent of the labour force (Campero and Mendoza). State enterprises vary enormously in size.

Public enterprises are a drain on the state budget. Many are self-financing, but some receive large transfers from the central government. In 1981, 55 per cent of the government's public expenditure went to public enterprises. Nine of these[2] got 40 per cent of the total and PEMEX alone received 16 per cent (Cornea Alvarez).

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[1] Their exact number differs depending on the definition used. The 1975 census of public enterprises gives a total of 872 public enterprises of which 519 were majority State-owned; 64 had a minority State share; 201 were trusts and 88 were decentralised public organisations (Cornea Alvarez).

[2] These included, however, the National Electricity Commission (CFE), the Social Security Institutes (IMSS and ISSSTE), CONASUPO, and the railroads (Ferronales).

In manufacturing the main State investments are in sugar, fertiliser, diesel engines, coaches, textiles, tobacco and steel. In 1975 wholly-owned public enterprises employed 82,594 people (4 per cent of the manufacturing labour force) (Campero and Mendoza).

Government participation was not the result of a particular ideological stand. Rather to the contrary: the Mexican Government has always considered the private sector as the prime mover of the economy. However it had set itself certain development goals and when private enterprise was unable or unwilling[1] to fulfil these goals "the state stood ready to intervene in the economy as an institution of last resort, though sometimes an impatient one, acting as banker and as entrepreneur to deal with those problems that the private sector has been unwilling or unable to handle". (Bennet and Sharpe, p. 171).

An example of an investment that the State considered essential but that because of its magnitude and the long-term character of expected returns did not find sufficient private backing is the case of Altos Hornos, the integrated steel mill that was set up during the Second World War. Nacional Financiera secured a loan from the (United States') Export Import Bank to finance part of this project and become minority owner. As the construction took much longer than foreseen, National Financiera had to come up with extra funds and so reluctantly the State became majority owner.

In other cases the State became owner when it bailed out firms in financial difficulties which it considered too important for industrial growth to go bankrupt. Examples are the sugar mills (see previus section), Diesel Nacional (DINA) and the industrial and banking firm SOMEX (Bennett and Sharpe).

Brazil: From a reluctant participant (see previous section) the State (i.e. Federal and State governments) has become the dominant actor in the Brazilian economy. Its powerful position in (development and commercial) banking has already been referred to. It is also a major force in mining

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[1] Apart from the size of the capital outlay, this unwillingness has also been related to the government's pricing policy that aimed at keeping prices low to consumers (in the case of final produce) and producers (in the case of intermediate inputs) but, it was felt, did not always allow producers to operate profitably.

(CRVD), oil refining and distribution (Petrobras), services (through, e.g. Lloyd Brasileiro, the shipping company) and of course manufacturing. "In practically all aspects of organised economic activity in Brazil today, the government exercises a decisive influence through the administration of policies that affect producer profitability in one way or the other. To be sure, the present system can be considered one of state capitalism." (Tyler, 1981, p. 13).

Public enterprise played a key role in the rapid growth that started in the second half of the 1960s. The public sector accounted for more than half of total gross fixed capital formation during the 1968 to 1974 period (Graham, 1978, quoted in Bergsman, p. 82). Public enterprises were responsible for the modernisation and fast expansion - often at yearly rates over 10 per cent - of a large part of the country's infrastructure such as electric power, communication and transport. In 1969, for example, public investment made up 60 per cent of the total (Bergsman). By 1974 the 20 largest enterprises (by assets) in Brazil were publicly owned (ibid.). If anything this growth in importance continued after 1974. Evans reports that by 1979, 74 per cent of the assets of the 100 largest firms were controlled by State enterprises (quoted in Jenkins, p. 194).

In manufacturing, too, the state's share went up quickly. Its share in manufacturing by assets doubled from 8 to 16 per cent of the total between 1966 and 1974 (Hewlett, p. 157). By 1979 it was estimated that government firms accounted for 25 per cent of total sales (Tyler, 1981, p. 3). The state invested above all in intermediate goods such as steel, fertiliser, alkalis and more recently in paper pulp and non-ferrous metals in an effort to keep up with the rapid growing demand and often engaged in import substitution (Werneck). All these activities had a high capital intensity and very high expansion rates in common, and they implied a tremendous investment effort which most probably could not have been attained without extensive participation of the state.

The size of state companies allows them to move into new areas that the private sector cannot match. "They enjoy high profits derived from prices set by the government." (Overholt, p. 31). But above all this success is explained by their privileged access to finance, largely controlled by the state. In a country where it is fairly difficult - and at times very

difficult - for private firms to obtain long-term finance, this is a considerable advantage. Moreover, and contrary to the experience of most domestic firms, many state companies were able to raise money via the stock market.

As a result of their rapid expansion, state firms have become conglomerates and multinationals in their own right. They have moved into activities related to their original line of business. Petrobras has become an important producer of petrochemicals, CRVD moved into pellitising plants, bauxite mining and aluminium production, pulp manufacturing and steel plants. They have also moved into fields unrelated to their original activity. Both CRVD and Petrobras have branched out into the production of fertilisers and into shipping (Hewlett in Overholt, p. 156).

Republic of Korea: State participation in the economy has been sizeable but selective in the Republic of Korea. The State has invested in areas it considered important and where private enterprise was unlikely to take the large financial risk. It has, however, also divested itself of some of its investments.

Most of the 36 State enterprises that existed in 1960 can be traced back to colonial rule. They were enterprises that fell to the government after the Japanese left or were confiscated private Japanese firms that the government had not wanted to sell.

The increase in their number after 1960 was clearly policy-induced. In 1972 there were 108 public enterprises whose share in GDP had risen to 9 per cent, or 13 per cent in GDP outside agriculture (Jones and Sakong, pp. 149, and V-9). The State's dominance in finance and banking has already been discussed. Apart from its role in infrastructure one third of mining and transport and communication output was also generated by State enterprises. It owned the Korea Telecommunication Company and Korea Airlines, but these were later sold to private investors. More recently government has started to divest itself of its interests in the banking sector.

The history of public enterprise in manufacturing dates back to the Koryo dynasty (918-1389) when the government ran its own establishments to produce luxury goods (such as the famous green celadon ceramics) for the Royal Family and segments of the aristocracy (Jones and Sakong).

In more recent years the State invested heavily in import substitution industries such as fertilisers, oil refining and steel production often in partnership with local or foreign firms. Fifteen per cent of manufacturing GDP was generated by public firms in 1972. Some of the biggest State companies are the Korea Oil Corporation (50-50 joint venture with Gulf oil), the Pohang Steel Company (50-50 joint venture with private investors) and the Korea Pacific Chemical Corporation (50-50 joint venture with Dow Chemical).

Between 1963 and 1972 public enterprise output increased by 14.5 per cent per year in real terms (compared to 9.5 per cent for the economy as a whole and 12.2 per cent in the non-agricultural economy). In this period public enterprises absorbed 30 per cent of gross investment (Chokski, p. 25).

Public companies are among the largest in the country. In 1972, 12 of the 15 largest and 20 of the 50 largest were public (Jones and Sakong). In more recent years the share of value added outside agriculture generated in public enterprises has remained more or less constant. It stood at 11.6 per cent in 1980 (Michell, App. table 5).

Foreign enterprise

> "... My ministers and economic advisors did not take long to convince me that the rate of development necessary if we were to generate the jobs to mop up unemployment running at 10 per cent of the workforce in 1960, could never be achieved at the pace at which Chinese and Indian Singaporean enterprise was slowly moving from traditional retail and entrepot trade into the new manufacturing or servicing industries. They saw far greater potential in the expanding subsidiaries of American, European and Japanese corporations. ... We have never suffered from any inhibitions on borrowing capital, know-how, managers, engineers and marketing capabilities. Far from limiting the entry of foreign managers, engineers and bankers, we encouraged them to come. ... Had we tried to go into industry on our own, working from first principles, we would never have made it ..." (Prime Minister Lee Kuan Yew in a speech delivered at the 16th World Congress of the International Chamber of Commerce, Florida, October 1978, quoted in Chia, 1982, p. 8.)

Foreign investment has been for many years one of the hottest debated issues of economic development. Many of its potential advantages are listed by Mr. Lee in his speech. Others have pointed to the potential disadvantages involved in allowing foreign enterprises, and multinationals in particular to

operate without restriction. Many of these disadvantages result directly from the size and the resultant power of MNEs. Their size, their financial strength, superior organisation and know-how, make it hard for domestic entreprises to compete with them and this would reduce rather than increase competition. By transplanting practices from the (developed) home country they may produce goods that are unsuitable for developing country markets, products that are unnecessarily diversified, using technology that may be inappropriate for a situation in which relative factor scarcities are different. This may lead to unnecessary dependence on costly licenses and higher than necessary production costs which, in turn, may lead to greater dependence through indebtedness.

Aware of these potential disadvantages many countries have tried to restrict the scope for action of multinationals. Several have completely excluded MNEs from investing in certain sectors of the economy, notably in defence, communications (press and radio) and banking. Other economic sectors, often resource based, such as petroleum, petrochemicals and mining, as well as steel, have in some instances been barred to foreign investors. Likewise, countries have pushed for minority or majority local capital participation (joint ventures), encouraged local procurement and higher local value added.

Against the very open attitude to foreign investment of Singapore and to a lesser extent Brazil, the more critical attitude of Mexico and the very critical one of the Republic of Korea should be noted. Moreover, not all direct foreign investment originates in large multinational corporations. Many of the foreigners who invested in Singapore and the Republic of Korea for instance, were small or medium sized firms from Hong Kong and Japan respectively.

However critical of DFI countries may have been in the past, in more recent years as the disadvantages of bank lending have become dramatically clear, and as growth of other sources of development financing are stagnating or worse, we have witnessed a reappraisal of DFI and its advantages are stressed once again. The very high interest rates on bank loans have rudely reminded many countries that one of the advantages of DFI for the balance of payments is that its profit remittances are a function of its successful operation rather than a fixed cost as in the case of borrowing.

After a few general remarks on the pattern of foreign investment we will briefly look at the importance of foreign enterprise in the four countries concerned.

For most of the nineteenth and the first half of the twentieth century foreign investment in developing countries was concentrated in the primary sector to exploit natural resources. Investments were enclave in nature and wholly foreign-owned. Profits could be huge but few of these remained in the host country (e.g. Mexico). Although more recently investments in services and manufacturing gained in importance, even today petroleum, mining and agriculture absorb most of the developing world's DFI.

From the 1950s onwards, most new foreign investments went into the manufacturing and related sectors such as shipping, air transport, and banking. Governments that wanted to industrialise, and higher trade barriers that frustrated direct exports led to much multinational investment. Most of this went to Latin America. In the 1970s a new wave of investments for exporting manufactures gained momentum. Some Asian countries proved to be the main recipients of this.

Despite this more recent trend, however, and also because of the different character of this type of investment (import substitution industries proved more capital-intensive than producers of manufactured exports), most of the stock of foreign investment is still concentrated in Latin America. By the end of 1981, 52 per cent of all investments by industrialised countries in developing countries was in Latin America, compared to 28 per cent in Asia, 11 per cent in Africa and 9 per cent "developing Europe" (OECD, 1983).

Today, four different categories of foreign investment in developing countries can be distinguished. Production for the domestic market of internationally tradable goods, is a first category. This import substitution industrialisation behind trade barriers has been a common form of DFI in the larger Latin American countries where exporters have tried to safeguard or enlarge their previous export market or have wanted a presence in what looked like a promising market.

The other categories are different forms of investment for exports. These include those by the TNCs which started by substituting imports and which then became substantial exporters. The multinational automobile and parts exporters in Mexico and Brazil fall into this category. Next are the foreign firms which produce and export "traditional" products such as footwear, textiles, processed foods and sporting goods. They use relatively simple technology, little product differentiation and a relatively unskilled labour force. To the extent that foreign investment is involved in this type, it is done more by smaller companies than by giant MNEs. Finally there are the "sourcing" investments where only one particular (labour-intensive) part of the production process is transferred to the developing countries. The more capital-intensive parts are then still performed in the "home" country, where also the R & D is done and marketing is co-ordinated. The electronics, especially the semi-conductor industry is a good example (Lall).

The newly industrialising countries, and in particular some of the ones considered here, have been among the main beneficiaries of Direct Foreign Investment. As we pointed out earlier, their rapid growth cannot be seen in isolation from the rapid growth of investment in developing countries originating in industrialised countries in the 1960s and 1970s. This flow grew by 7 per cent average per year between 1960 and 1968; by 9.2 per cent between 1968 and 1973 and by 19.4 per cent from 1973 to 1978[1] (OECD, 1981).

Today, much of the total stock of direct investment in developing countries that originated in the industrialised countries (US$137,200 million in 1981) is concentrated in the NICs. If we exclude OPEC countries and offshore banking centres then 58 per cent of the total is in newly industrialising countries. Within these countries nearly half was in Brazil (US$17,200 million or 18 per cent of the total) and Mexico (US$10,300 million, or 11 per cent of the total). A relatively large part went also to Singapore (US$3.9 million or 4 per cent of the total). The Republic of Korea received "only" US$1,600 million or 1.7 per cent of the total (OECD, 1983).

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[1] The acceleration after 1973 was smaller in real terms. Inflation accelerated (from roughly 4.0 per cent between 1960 and 1973 to 9.1 per cent between 1973 and 1978).

Singapore: Foreign investment plays a major role in the Singaporean economy, and a dominating one in manufacturing. In 1980 nearly 60 per cent of all workers in manufacturing were employed by wholly or majority foreign-owned enterprises. These enterprises produced two-thirds of manufacturing output and accounted for nearly 85 per cent of manufactured exports (see table 47). Foreign investment reached this dominant position gradually. In the early days of independence, its presence was modest and what foreign enterprises existed were mainly in the trade and services sector and in oil refining. The smallness of the domestic market, the low level of protection offered, and the "unfavourable political and industrial relations climate" have been given as explanation for the low level of foreign investment in manufacturing prior to 1965 (Chia, 1982, p. 20).

A combination of factors led to the rapid increase in DFI after 1965. Government made reliance on multinationals the basis for its development strategy. It offered investment incentives, no limits on profit repatriation and a liberal attitude towards the employment of expatriate staff. The country's improved political, labour and wage stability were also prominent among the "pull" factors (ibid., p. 20).

Most foreign investment in the 1960s went into petroleum refining. By 1970, 55 per cent of all foreign assets were in that sector. Foreign investments in textiles and clothing were also prominent in the 1960s. These came in two waves, 1963-64 and the late 1960s, from Hong Kong and another East Asian NIC. The first wave was the result of efforts to circumvent quota restrictions imposed on these exporters by the major developed market economies "even though wage rates in Singapore were higher than in the home countries" (ibid., p. 21).

The reasons for coming to Singapore included geographical proximity, cultural familiarity, absence of trade restrictions imposed by OECD countries on Singapore manufactured exports, and generous investment incentives (ibid.). The "push" factor of the second wave included economic and political uncertainties at home, as well as growing labour shortages and rising wage levels.

A third major recipient of foreign investment was the electrical and electronic industry. This was by far the most dynamic growth sector in the

1970s when it increased its share in total foreign assets from 8.2 per cent in 1970 to 17.3 per cent in 1981.

Another rapidly growing recipient of DFI in the 1970s was the precision instruments industry. Textiles and clothing received no new investments after 1975. Petroleum refining, on the other hand, kept receiving a steady inflow of new foreign capital.

The sources of DFI in Singapore have been very diverse. The United States and Western European countries went into oil refining; the Japanese concentrated on shipbuilding and repair and machinery; Hong Kong investments preferred textiles and clothing, and all set up electric and electronic subsidiaries. Investment by Japanese firms showed the most rapid growth in the 1970s.

Mexico: Before the revolution started in 1910, foreign investment in Mexico totalled US$2,000 million or two-thirds of all investment outside agriculture and handicrafts. Foreigners owned one-seventh of Mexico's land surface (Evans). This high proportion of foreign ownership "may have set all time records for any nation claiming political independence" (Vernon in Kobrin, p. 114). Most of these investments were in extractive industries and public utilities such as railroads, and little was found in manufacturing. Most originated in the United Kingdom, France and the United States.

Resentment towards foreign investors led to few new investments after the 1910 revolution. Nationalisation of petroleum, railways and agricultural properties further added to an absolute and relative decline. By 1940, the total amount of foreign direct investment had fallen to US$411 million, or about 28 per cent of the total in 1911 (May, quoted in Kobrin, p. 115).

From the late 1940s onwards foreign investors started to return to Mexico. They responded to a gradually more positive attitude towards them. The compensatory arrangement that President Avila Camacho reached with the ex-owners of Mexico's petroleum industry was a case in point.

Most new investments went into manufacturing. The share of that sector in all DFI increased from 7.1 per cent in 1940 to 73.8 per cent in 1970 (Waarts, p. 189) and remained roughly at that level thereafter. The growing

concentration in manufacturing was no doubt a consequence of the increasing protection offered to producers. It was also the result of the Mexicanisation programme.[1] Industries in sectors that were considered basic for the national economy were gradually appropriated. This happened quietly and ex-investors were compensated. Examples of this buying-out of foreigners were the electric companies (in 1960), the remainder of the petroleum sector (1969) and sulphur mining (1967) (Waarts).

The Presidency of Ruiz Cortines (1952-58) was particularly favourable to investors. A 65 per cent rebate on machinery and equipment import duties was offered and the law for New and Necessary Industries enacted in 1955 offered exemption from several taxes (Evans and Gereffi). The country did require local equity participation (preferably majority control by locals) as a condition for entry by foreign enterprises.

Within manufacturing the share of foreign enterprises has gone up rapidly since the 1950s. Between 1962 and 1976 foreign-owned subsidiaries grew at an annual rate of 14 per cent compared to 12 per cent for the most dynamic domestic companies (Krook). In 1970 they accounted for 45 per cent of all firms with more than 10 employees compared to 38 per cent in 1962 (Evans and Gereffi; Krook). For all manufacturing firms these figures were 21.2 and 14.4 per cent (Waarts). Foreign companies are thus relatively large. In 1972, 52 per cent of the 300 largest manufacturing firms were foreign-owned. The United States alone accounted for 36 per cent (Evans and Gereffi).

In the early 1970s the attitude to foreigners became more critical. President Echeverría introduced a new Foreign Investment Law in 1973 which expanded the "Mexicanisation" process: virtually all new investments were required to be structured with a maximum of 49 per cent foreign equity. The 1973 Transfer of Technology Bill limited the amount of royalty payments for technology that could be paid as well as the kind of technology that could be transferred. A third, more controversial law was not adopted (Looney, p. 79).

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[1] The Mexican Government publishes lists with specific activities which are reserved for state ownership (infrastructure, basic petrochemicals, etc.), for 100 per cent domestically-owned firms (such as credit, finance, insurance and broadcasting) and for majority domestically owned firms (such as mining, printing, etc.) (de Rossi).

New foreign investment flows slowed down in the early 1970s but in the latter half of the decade they increased as a result of a more liberal government attitude and the opportunities provided by rapid demand growth.

Between 1950 and 1970 most foreign investment went into chemicals. Other important host sectors were electric equipment and transport vehicles, and to a lesser extent foodstuffs, metal products and non-electric machinery (table 48). As a result, in 1970, production in such sectors as tobacco, rubber, chemicals (which includes pharmaceuticals and cosmetics), machinery and electrical equipment originated in majority in foreign companies. In 1972 non-electrical machinery, transport equipment and metal products were also largely foreign-owned.

Table 48. Mexico: Private foreign investment and participation in production by transnational enterprises and sector, 1960 (1962), 1970.

	Sector	1. Foreign investment million US $ (1) 1960	(2) 1970	(3) 1970/60	2. Value of production of foreign enterprises million pesos 1962	1970	1970/62	3. Share of foreign enterprises in sectoral production value (1) 1962	(2) 1970	(3) 1970-62	(4) 1970/62
1-4	Agriculture, live-stock etc.	19.4	30.9	1.59	32	151	4.72	0.1	0.2	0.1	2.00
5,6	Mining	168.8	155.4	0.92	3038	5111	1.68	68.9	56.3	-12.6	0.82
7	Oil, coal	21.6	26.3	1.22	98	661	6.74	0.9	3.0	2.1	3.33
8-10	*Foodstuffs*	43.4	148.3	3.42	1331	4863	3.65	4.9	8.6	3.7	1.76
11	Beverages	20.0	87.2	4.36	531	2154	4.06	10.4	19.0	8.6	1.83
12	Tobacco	17.6	59.3	3.38	1062	2527	2.38	65.0	79.7	14.7	1.23
13,14	Textiles	15.3	43.0	2.82	312	1102	3.53	4.7	6.8	2.1	1.45
15	Shoes, clothing	1.3	13.7	10.53	104	423	4.07	1.7	2.0	0.3	1.18
16	Wood, cork	1.3	13.4	10.01	27	294	10.89	1.3	7.2	5.9	5.54
17	Paper	23.1	63.9	2.76	565	1769	3.13	22.4	27.4	5.0	1.22
18	Printing, publishing	3.6	26.2	7.22	126	570	4.52	6.1	11.7	5.6	1.92
19	Leather	0.1	2.1	25.20	3	53	17.67	0.2	1.7	1.5	8.50
20	Rubber	51.8	86.2	1.66	1007	2258	2.24	76.7	84.2	7.5	1.10
21-27	Chemicals	213.0	617.9	2.90	5257	14920	2.84	58.4	67.2	8.8	1.15
28	Non-metal. min. prod.	35.6	81.1	2.28	742	2311	3.11	24.4	26.6	2.2	1.09
29	Basic metals	31.2	76.8	2.46	920	3582	3.89	17.7	25.2	7.5	1.42
30	Metal products	23.7	125.3	5.28	573	3013	5.26	20.6	37.0	16.4	1.80
31	Machinery	17.1	112.6	6.60	470	3283	6.99	44.9	62.0	16.9	1.38
32	Electric equipment	52.4	215.2	4.11	1566	7610	4.86	58.3	79.3	21.0	1.36
33,34	Transport vehicles	36.8	211.6	5.74	1898	8686	4.58	42.6	49.1	6.5	1.15
35	Misc. manufactures	14.9	99.4	6.65	290	1275	4.40	17.6	29.6	12.0	1.68
	Total	812.0	2295.8	2.83	19952	66616	3.34	14.4	21.2	6.8	1.47

Source. Waarts, p. 198.

Most foreign enterprises produce for the domestic market. Like the rest of the manufacturing sector, they export only a tiny fraction of their output. Their high production cost made this very difficult although in some cases it was also the result of conscious company policy. In 1970 only 3 per cent of all TNC output was exported and these covered only a narrow range:

foodstuffs, industrial chemical products and automobiles and parts (Jenkins, p. 118).[1] Encouraged by Government policies multinational exports reached 6 per cent of output or US$250 in 1975, compared to 5 per cent for the manufacturing sector as a whole. Most of the increase was in automobiles (World Bank, 1977).

DFI in manufacturing has been concentrated in relatively few high growth "modern" sectors. This concentration has been explained by the comparative advantages that TNCs have in these sectors because of brand names, technology and marketing experience. It was also, however, a consequence of conscious government policy that aimed at reserving "basic" sectors of the economy for the state and required majority participation by Mexican capital in companies that were "closely related" to basic economic activities such as steel, cement, glass and aluminium (Waarts).

The United States is by far the most important source of DFI in Mexico. Its share is declining though. It decreased from 80 per cent of the total in 1971, to 69 per cent in 1975. Reportedly it went further down thereafter.

Brazil: Foreign investment in Brazil was of little importance until late in the nineteenth century. The production of its main money earner, coffee, was entirely locally owned. When investment from abroad came, it was mainly British in origin and in activities outside manufacturing such as banking, insurance, sea transport, railroads and other public utilities. Early import substituting industries, such as textiles, were largely a Brazilian affair.

In the first two decades of this century, an increasing number of investors from other countries (notably the United States) came to invest in Brazil and the British influence became less pronounced. New investments such as those in mechanical and electrical machinery hardly competed with domestic capital, although in food processing (e.g. meat packing) some competition existed (Luis Possas). On the whole foreign capital played only a secondary part in pre-1930 Brazil, although in some industries its influence was quite pervasive.

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[1] Only foreign printing and publishing companies exported a significant portion (25 per cent) of their output (Waarts).

After 1930 a largely positive government attitude led to steady growth of foreign capital inflows, although the government made certain reservations about it entering the oil and mining sector (Code of Mining; Luis Possas).

The mid-1950s may be regarded as a borderline both for Brazil's industrialisation process and for the record of international corporation presence (Luis Possas). President Kubitchek encouraged manufacturing investment. Foreign manufacturers were offered exceptional exchange advantages for imports of machinery and equipment[1] (Evans and Gereffi). The results were impressive. The automobile industry for instance, that was created virtually from scratch in 1956, was producing 190,000 automobiles and trucks by 1962 (Robock).

The government that came to power in the early 1960s adopted a more critical attitude to foreign investment. In 1962, President Goulart had a law adopted that, among others, limited profit remittances of foreign investors. A steep drop in new foreign investments followed. The military government that took over in 1964 quickly put investors' minds at ease and conditions for foreign investors improved. The years 1965-67 were in fact particularly favourable for them. Low growth and an anti-inflation policy that severely restricted domestic credit supply caused financial problems to many domestic firms. Foreign enterprises with access to foreign credit were able, according to Robock, to take over a number of Brazilian companies at "bargain prices". This "selling out" of Brazilian industry to foreigners and the fear of further denationalisation was among the reasons why government reversed its policies and liberalised credit to the private sector (Robock, p. 32).

Participation of foreign capital in industry went up from 18.9 per cent of assets in 1965 to 28.6 per cent in 1975 (Luis Possas). Most DFI went to industry (74.9 per cent of the stock in 1974). Services received 17.1 per cent. In the early 1970s four manufacturing sectors were predominantly (over 75 per cent of assets) foreign owned: tobacco, rubber, pharmaceuticals and transport equipment. Three other sectors had a predominance of foreign capital (i.e. more than 50 per cent of assets foreign-owned): chemicals,

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1 "It appears that during the import substituting period, in many sectors Brazil stopped importing goods, but imported foreign firms to make the goods locally instead." (Morley, p. 32).

machinery and electrical machinery. Sectors with much foreign ownership tended on the whole to grow much faster than other sectors between 1950 and 1968.[1] From 1973 to 1977 MNEs did on the whole not appreciably improve their position in manufacturing. In some, such as textiles and automobile parts, they did but in others their presence declined significantly. The decrease in shipbuilding, aircraft, chemicals and petrochemicals and grain mills was often due to increased state participation (Luis Possas).

Most of the foreign enterprises produce for the domestic market. Until recently Brazil exported very little of its manufacturing output. Even by 1973 this was below 10 per cent. MNEs seem to have done little better or worse than either public or private domestic companies. Only in wood, paper, leather and food products was more than 10 per cent exported.

In 1972 the BEFIEX programme was introduced that aimed at stimulating exports and further reducing the net foreign exchange needs of foreign investors. Under this programme companies were allowed a credit for exports on the taxes that they would have paid on their domestic production. The effect on auto exports was impressive. "By 1977 auto companies were exporting at a yearly rate of almost US$700 million, creating a yearly trade surplus of over $300 million, remarkably different from the almost $100 million trade deficit they had generated only three years earlier." (Evans and Gereffi).

The United States is the main investor in Brazil. However, thanks to dynamic growth of Swiss, German and particularly Japanese investments its relative importance declined rapidly between 1969 and 1974. In 1969 it still accounted for nearly half of all foreign investment. By 1974 this was no more than a third. The Federal Republic of Germany, Switzerland and Japan had about 10 per cent of the total each (Robock).

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[1] These findings, however, may be a little biased by the fact that foreign companies were concentrated in "modern" industries which were fairly small in the 1950s.

The Republic of Korea[1]: The Republic of Korea had known, of course, considerable "foreign" investment during the Japanese occupation. Upon liberalisation, however, these were reduced to zero and there would be no inflow of foreign capital other than loans and grants until 1960. After that time, DFI was fairly modest until 1970. Most investments were of an import substituting nature and originated in the United States. In the 1970s new investments accelerated. This time they came mainly from Japan which rapidly became the most important investor in the country (56 per cent of all accumulated foreign investment in 1980). Their nature also changed: most were geared to production for export. With the exception of consumer electronics for export most DFI took the form of joint ventures. Hereunder we will briefly expand.

The first law that allowed foreign investment into the Republic of Korea was passed in 1960. DFI was offered a "standard package of tax concessions" (Westphal, 1979) but each investment needed to be approved by a government committee.

In 1966 the Foreign Capital Inducement Law was passed. This law was to be often amended and modified in subsequent years to express changed preferences of the government. The 1966 law gave priority to joint ventures (particularly minority participation) and defined in which sectors DFI was preferred (Chaponnière). It also formally removed limits on equity investments and profit remittances by foreign investors (Westphal and Kim).

The first case of foreign investment took place in August 1962, but few new cases followed. After 1966 their number increased, but by 1971 all DFI amounted to little more than US$100 million in current prices (Park Yung Chul, 1983; Jo). Between 1962 and 1971 less than 5 per cent of all capital inflows had been DFI.

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[1] DFI has been much less important in the Republic of Korea than in the other NICs. However, it is a fairly under-researched area to which few studies on the Republic of Korea make substantial and explicit references. There is moreover some disagreement over the size of DFI in the Republic of Korea between Jo (together with, in a way, Chaponnière) and Westphal. Jo's figures, based on a 1974 EPB survey, show that 11 per cent of manufacturing output originated in foreign firms which accounted for 31.4 per cent of total manufactured exports (p. 22). Westphal (1979) claims that this 1974 EPB survey was not representative and that it overstated the size of DFI in the economy. The difference may be explained by the fact that Jo calls all firms with some foreign ownership foreign enterprises. In fact, out of a total of 734 enterprises, 683 were joint ventures.

Several possible reasons have been suggested why, despite fairly generous incentives,[1] the volume of DFI was so low in the 1960s: those include uncertainties about the political situation, poor resource endowment, relatively easier access to foreign loans once its ability to penetrate world markets had been proven, and "by purposeful administrative tactics that were apparently relaxed in the early 1970s; it was not due to the lack of legislated inducements" (Westphal and Kim, pp. 4-8).

The main motive for investment in the 1960s was to take advantage of the protected and growing local market. Between 1962 and 1968 foreign investments were mainly concentrated in petroleum, chemical fertilisers, chemical fibre and other chemicals (Jo).[2]

Between 1962 and 1968 most (82 per cent) of DFI originated in the United States (Jo). Japan's low share of 8 per cent is, in large part, explained by the fact that only in 1965 relations with Japan were normalised. From 1967 to 1971 its share of total DFI was 39 per cent (Westphal, Rhee and Pursell).

After 1970 DFI accelerated and particularly after 1972 (Jo). Most of these investments came from Japan, which accounted for 72 per cent of the total from 1969 to 1974 (Jo) - and for 88 per cent of total from 1970 to 1976 (Song in Krause and Sekiguchi). Total DFI between 1970 and 1975 was about US$700 million (compared to US$100 million for 1960-69).

After 1976 the relative importance of DFI in total resource inflows decreased and so did the share of Japan in total DFI although it remained the largest investor. In 1977 and 1978 when the total volume was about US$100

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1 "The incentives to foreign investors under the legislation of 1960 featured an array of tax concessions, including a five-year holiday from income tax and guarantees for the repatriation of principal and profit. Subsequent changes, intermittently introduced over time, added to the inducements so that Korea's legislative incentives to DFI have consistently been among the most generous in Asia." (Westphal, Rhee and Pursell, p. 18).

2 Relatively little DFI went into the export sector. This disproves the thesis sometimes heard that the Republic of Korea's initial high growth was the result of it being used as an export base for multinationals. Moreover, the relatively simple technology used and the fairly standardised nature of the manufactured exports of the 1960s did not really make DFI necessary for technology inputs or marketing (see also Park Yung Chul; Westphal, Rhee and Pursell).

million per year, Japan's share was slightly less than half, and that of Western European countries a little more than 25 per cent (ibid.).

Among the "push" factors for the accelerated inflow of Japanese investments were the rising real wages in Japan and the appreciation of the yen that made it advantageous for Japanese firms to relocate labour intensive and technologically mature production abroad.

The Republic of Korea's "pull" factors for attracting Japanese investments were its geographic proximity and cultural affinity with Japan. This was particularly important for the sizeable number of small- and medium-sized Japanese firms that invested in the Republic of Korea. "Investments by many of these firms appear to have been in the form of secondhand machinery, which was transferred to the Republic of Korea after it could no longer be profitably used in Japan. Some of the investments from Japan - large and small - were by Korean expatriates residing there." (ibid.).

The nature of DFI also changed in the 1970s. The political stability, low labour cost of unskilled and semi-skilled workers and rapidly growing world trade turned most DFI into the labour-intensive, export market-oriented type (Jo). Marketing and export possibilities in general were also named by local entrepreneurs as most important for entering a joint venture with a foreign partner (EPB survey, 1974 in Jo, p. 20).

Most DFI went into manufacturing. This accounted for 80 per cent of total stock in 1978 (Westphal, Rhee and Purcell, p. 20), and 73 per cent in 1980 (Chaponnière, p. 63). Within manufacturing textiles and apparel received by far most DFI between 1969 and 1974, followed by electric and electronic machinery, metal and metal products, transport equipment and chemicals (Jo). Gradually however, electronics became the most important recipient of DFI.

The shift towards textiles, clothing and electronics reflects the rising emphasis on production for export. Yet despite its growth, foreign investment never became the dominant form of ownership in textiles and clothing, that remained largely the domain of private domestic entrepreneurs. In the mid-1970s foreign firms accounted for only 10 per cent of exports of textiles

and clothing (Westphal, Rhee and Pursell).[1]

This was not the case with electronics. In the mid-1970s, 75 per cent of all electronics exports originated in foreign firms, most of them wholly-owned subsidiaries. "Rapid changes in technology within the industry worldwide largely explain the Republic of Korea's dependence on MNCs in exporting electronics; many of the exports are intra-firm transactions or based on subcontracting, with the MNCs providing the production know-how and critical inputs." (ibid., p. 55).

More recently it has become common to include the obligation to export as a pre-condition for approval of DFI. In 1978, 331 foreign firms were required to export all their output. Of the others, many were required to export at least a significant portion of their output (Westphal, Rhee and Pursell).

A characteristic peculiar to the Republic of Korea is that, with the exception of electronics, most DFI has taken the form of joint ventures. Jo (1976, pp. 16-20) gives data on joint ventures and wholly owned subsidiaries and export and domestic market orientation for the 1962-74 period. He found that of a total of 734 firms operating in the manufacturing industry only 51 (7 per cent) were wholly foreign-owned subsidiaries.

Chaponnière (p. 64) gives a more up-to-date breakdown for 1979. According to his data, 15.8 per cent of all projects undertaken between 1962 and 1978 were wholly, and 28.3 per cent were majority owned by foreigners (together 42.9 per cent of total investment). The considerable difference between these two sets of data may be explained by proportionally more wholly-owned DFI (particularly in electronics) between 1974 and 1978. It may also be because the data cited by Chaponnière include the services sector (banks, hotels, etc.) where presumably more wholly-owned DFI took place.

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[1] Many of the foreign investments in clothing and textiles originated in Japan and were used for filling Japanese import quota in Europe, and the United States "charging Japanese prices for Korean produce". They were also used for export to Japan: textile products which made up one-third of Japanese imports from the Republic of Korea largely originated in Japanese-Korean joint ventures (Chaponnière).

Domestic private enterprises

The previous sections have made it clear that at a time of dynamic growth of foreign and public enterprise, private domestic investors in manufacturing have somewhat lagged behind. Singapore, where the influence of foreign investors has not ceased to grow and Brazil, where the state has become omnipresent are the clearest examples. All four have operated - or still operate - schemes that give some kind of preferential treatment to small- and medium-sized (read: national) enterprises, but it is clear from the results that other factors have outweighed their positive influence. In many cases private domestic enterprises have tended to become "stuck" in more traditional sectors. These tend to grow slowly which in turn has led to a further decrease in relative importance.

To be sure, this process did not go unnoticed and action has been taken to reverse it or slow it down. But these efforts were not always very successful. Consider the case of Mexico, where after the Revolution much legislation - starting with the 1917 constitution - was enacted to curb the participation of foreigners in the economy. In fact the area in which, and the conditions under which, foreigners are allowed to operate in Mexico have, over the years, become subject to an increasing number of limitations.

This constant wish to "Mexicanise" however clashed with the desire to develop a modern industry that has been one of the key policy objectives since the days of Cardenas. This desire implied by necessity a certain dependency on foreign capital and technology. As much of these came as direct foreign investment, it was unavoidable that the body of legislation on DFI was applied "flexibly". "One can observe an economic pragmatism side by side with the revolutionary nationalism." (Krook, p. 46).

In fact the law was applied very flexibly and foreign investment grew rapidly, particularly in manufacturing. In the early 1970s it accounted for 5 per cent of the total capital stock and 10 per cent of private investment. In manufacturing, around a third of output was produced by foreign firms.

A favourite way to "Mexicanise" industry was to require foreign investors to share majority ownership with Mexican partners. However, it was not always easy to find these private investors, and that is how on some occasions the

state, often through NAFINSA, became the domestic partner. There have been a number of reasons why it has often proved difficult to locate willing and able Mexican private investors:

> "...the high initial expense of the 51 per cent equity, the weak capital market, differences between the foreign investors and potential Mexican investors with regard to reinvestment of earnings and so forth. For a time the government helped subsidise Mexicanisation, but more recently, finding these measures to be too costly in terms of tax revenue foregone, it has promoted Mexicanisation by itself acting as an investor of last resort, providing the portion of the Mexican investment which private Mexican capital has been reluctant to put forward."[1] (Bennett and Sharpe, pp. 188-189).

A few very large domestic groups developed nevertheless, such as the Monterrey-based Alpha and Visa groups. They concentrated in traditional activities such as non-durable consumer goods and some intermediate goods such as iron, steel and cement. However, "Where new products are introduced this tends to be in conjunction with foreign capital, either through joint ventures or licensing. ... Six of the largest ten had links with foreign firms." (Jenkins, p. 151).

In Brazil, one of the main reasons for the rapid incease of State enterprise was their privileged access to capital. Understandably domestic investors considered this as unfair. Pressure on the government resulted in a larger portion of BNDE loans going to the private sector. Another development that diffused the private sector's critique was the growing number of joint ventures between state companies and (large) private companies (sometimes also with a foreign partner).[2]

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[1] Other ways to get around legislation was for a foreigner to use a Mexican "front man" ("presta nombre") whose real participation was nominal. The laws also gave rise to professional Mexican holding companies which form partnerships with foreign interests but leave day-to-day operations in the hands of partner managers (Schlagheck, 1980, pp. 38, 39).

[2] Evans (1974, p. 32) explains the tendency towards quiescence among Brazilian industrial entrepreneurs by the fact that these never experienced a period of unchallenged political hegemony. "Before the ascension of foreign firms they had to share power with the primary producers of the export sector. The industrial bourgeoisie is also accustomed to looking upon the state as a semi-autonomous institution, central to society and more powerful than they themselves."

The "crowding out" of domestic private enterprise is above all noticeable in manufacturing and much less in trade and other services or in land-based activities such as agriculture. Apart from legislation that excluded (or restricted) foreigners from operating in these sectors this may also have to do with the fact that investing in modern industry involves a comparatively high level of risk-taking. An industrialist commits his resources for a long period to uses that cannot be changed. The risks involved in such a long-term commitment are great, all the more so in situations where there is little experienced help around for the entrepreneur to assess the risks correctly and where there are few institutions designed to reduce them. Under such circumstances it may be more attractive "for men with more capital and ability to put their money into trade or land; into trade because the turnover of capital is more rapid, or into land because it is both more secure and more liquid than factories" (Habahkuk, 1981, pp. 14-19; also de Rossi, p. 39).

Another reason is that as firms grow, their need for new capital increases and this may not be available in sufficient quantities. Whereas large public companies have relied on the state or state banks to finance their needs through long-term loans, and foreign enterprises can turn to their parent or borrow on the "strength" of their name, private companies may find it hard to obtain long-term loans or risk capital.

The transformation of large privately-owned companies into joint-stock companies is obviously a crucial moment. Most private firms start their life as family-owned and family-run ones. Their initial financial needs for expansion are satisfied by banks or by the family.

When the firm continues to grow there comes a point that both the family owners and the banks would be better off if risk capital were available. This would reduce both the fixed interest charges for the firm and the too great exposure by the bank to one or a few firms. Although aware of these advantages, large firms have often been reluctant to "open up" as the family does not want to lose control.

Governments have been keen to set up stock markets and to encourage firms to "go public", particularly where firms depend for much of their capital on state-owned banks. The government of the Republic of Korea, for instance, has been active in this. Nevertheless, the volume and the number of stocks quoted

on the Seoul Stock Exchange have been low despite a series of laws that were enacted in 1968, 1972 and 1974, of which the last one virtually threatened firms that they would forfeit any further government loan if they would not go public (Hasan and Rao, 1979). In more recent years the number of firms quoted and the volume of the stock exchange have indeed gone up, and since 1981 the exchange has, under certain conditions, been opened to foreigners.

The Mexican Stock Exchange has also not functioned as a major mobiliser of capital. The volume of trading on the exchange has been small and has been concentrated in a few issues. Savers have preferred fixed income investments over investments in equities (Looney, 1982). Among the fixed income securities they have preferred bank deposits over debt securities, as the first are in some cases tax exempt whereas the latter ones are always taxable. Other reasons for the relative underdevelopment of the Mexican stock market are lack of collaboration from banks which see it as a competitive threat and the readiness of finance companies and mortgage banks to re-purchase long-term bonds at par at any time.

The Brazilian Government actively tried to promote the stock market in the mid-1960s. Various incentives were offered. The measures ranged from a new corporation law to an income tax rebate earmarked to be used in the subscription of newly-issued stocks by domestic private companies (Werneck). Other fiscal incentives included tax exemptions on the distribution of dividends and tax credits to individual taxpayers (Hewlett, 1979).

For a few years the stock market was a great success. From early 1968 to June 1971 stock prices rose 12 times and the volume went up enormously, only to collapse after mid-1971. The collapse was considered to be due to a lack of careful planning. "A lack of state supervision geared the way to considerable manipulations by large stock holders" (ibid., p. 175).

In the end the main beneficiaries of the expansion of the stock market were big state enterprises such as Petrobras and Electrobras. These large state enterprises were the "only Brazilian companies that both guarantee a reasonable dividend and protect the interests of minority stockholders" (ibid., p. 174). In 1974, five state enterprises accounted for 41 per cent of all transactions.

> "The failure of the lower cost equity route (i.e. the stock market) created the higher cost debt financing route for private sector expansion in Brazil. And, it should be emphasised, this was a high cost expansion strategy for private firms (due to indexing) and thus limited the long run private sector expansion that could some from this source." (Graham in Overholt, p. 115).

Strict government control may have been among the reasons why Singapore managed to develop a fairly well-working stock exchange although there too much of the trade is concentrated in partly government-owned stocks such as the Development Bank of Singapore.

The relatively reduced role of private domestic entrepreneurs in manufacturing particularly in Singapore and - to some extent - Brazil contrasts with the situation in the Republic of Korea. In the Republic of Korea rapid economic and export growth originated largely in domestically-owned enterprises, which, with the exception of electronics, comprise the dominant form of ownership.

The Republic of Korea has successfully tried to reach its development objectives without major reliance on foreign investors. In electronics, which became an important export product in the 1970s, it recognised that its rapidly changing technology made this very difficult. In chemicals, oil refining and fertiliser the state went into partnership with multinationals. But where possible rather than allow DFI in, it attempted to obtain loans, develop its own technology, purchase technical assistance, technology and know-how separately, rely on foreign buyers for export or develop its own markets.

Small industries and big conglomerates exist side by side in the Republic of Korea. The former were the main producers and exporters of the 1960s when these were mainly light industrial goods. With government emphasis changing to heavy industry the relative importance of the conglomerates increased. Yet as late as 1978 small and medium enterprises exported still 36.4 per cent of all exports and 40.5 per cent of manufactured exports (table 49) (Jones).[1]

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[1] Small and medium sized firms are dominant ("dominance" means that they account for at least two-thirds of value added) in "early" industries, such as food, beverages, tobacco, textiles, wearing apparel and leather, as well as in paper and printing. Conglomerates dominate such middle industries as wood and wood products, non-metallic minerals and such late industries as fabricated metal products, machinery and equipment. Together with public enterprise they dominate chemicals, petroleum, coal, rubber, plastics and the basic metal industry (Jones, p. 43).

Table 49. Republic of Korea: Export shares of small and medium industry

Year	Total small and medium exports as a share of	
	Total exports	Manufacturing exports
1963	18.6	36.0
1964	19.6	38.0
1965	23.0	37.3
1966	27.8	44.6
1967	28.3	40.4
1968	31.4	42.8
1969	36.4	46.1
1970	32.2	38.5
1971	32.4	37.6
1972	36.1	41.2
1973	37.3	42.2
1974	34.8	38.6
1975	34.5	39.1
1976	36.0	40.1
1977	36.4	40.7
1978	36.4	40.5

Source. Jones, p. 60.

The large domestically-owned conglomerates called chae-bol or jae-bul are a typical Korean phenomenon. Ownership of significant shares is strictly in the hands of a single family and control is often concentrated in a single individual (the "Hoejang" or chairman). Each group is virtually completely independent of the other. Each operates in a large variety of activities. Sam Sung, one of the larger chae-bol, for example, is active in textiles, paper, electronic assembly, electronic tubes, electrical equipment, shipbuilding, wholesale trade, a department store, land develoment, construction, insurance, a newspaper, broadcasting, a hotel, a hospital and a university (Jones).

Chaebol are found mainly in manufacturing, construction, insurance, real estate, and transport and communications (Jones). They did not own banks, however.[1]

[1] When in 1981-82 the banks were privatised, great efforts were made to avoid that they could come under the control of the chae-bol. It is unsure whether these efforts were successful.

In manufacturing, chae-bol dominate heavy industry. Jones suggests four possible reasons for this: (1) large-scale projects using modern technology would need organisation skills only available in the large corporations; (2) the best (and biggest) entrepreneurs have a comparative advantage over lesser entrepreneurs in the most innovative tasks which find their highest yield (reward) in heavy industry; (3) chae-bol have been pressured into an active role in implementing the government's plan for development of heavy industries; and (4) chae-bol took advantage of the incentives (such as borrowing at subsidised rates) offered by the government for moving into the heavy sector (Jones, pp. 44-45).

In the absence of hard data, distinguishing the relative importance of these factors is of course impossible, which means, says Jones, that "advocates of each position can make a convincing case. However, one reasonable guess is that the first pair of factors played a major role in the early heavy industry specialisation through the mid-1970s, but that the political economy elements played an increasing role thereafter as government emphasis shifted in this direction." (Jones, pp. 45-46).

Chae-bol have been growing in size both in absolute and in relative terms. In 1973 the top 46 business groups accounted for only 9.8 per cent of GDP. Five years later, in 1978, their share had doubled to 17.1 per cent. They made up 22.6 per cent of GDP outside agriculture and 43 per cent of manufacturing production in that year (Jones).

Within the top business groups, the biggest also became bigger. In 1978 they made up 8.1 per cent of GDP (up from 3.5 per cent in 1973).

Chae-bol are also big by world standards. They are among the largest private business groups in developing countries. Of the five largest private non-oil companies with headquarters in a developing country, in 1978, no less than four(!) had their base in the Republic of Korea (Jones). They have also invested abroad: Gold Star (Lucky group) built a colour TV plant in Alabama and Sam Sung assembles colour TVs in Portugal for the European and African market (Chaponnière).

Chae-bol were the government's main vehicle for the launch into into heavy and chemical industries. Yet more recently its view of chae-bol has become

more ambivalent. On the one hand they are felt to be necessary as they are in a position to move Korean industry into the forefront of current technology and are already doing so in the electronics industry. On the other hand, their size and the fact that they are still basically owned by single families (increasingly intermarrying) has become a source of concern. "The Korean Government for all its power has been far from successful in persuading the chae-bol to make their companies public." (Michell, p. 196).

It is remarkable that, despite the growing concentration of businesses in the Republic of Korea, still such a large portion of output and exports originates in small- and medium-sized enterprises. It appears that the reason for this is that these enterprises are over-represented in the "light" segment of the industrial spectre that produces clothing, sporting goods, textiles, footwear, etc. "Light" industry, "despite" government efforts to promote "heavy" industry still accounts for a large portion of production and exports, and so do small and medium enterprises.

Government financial, marketing and technical assistance were crucial factors for the success of these smaller enterprises in the early days of exporting. Their marketing problem was further reduced by buyers flying in a few times a year to place orders directly with the producers. Some large United States department stores have set up buying offices in Seoul.

Government's involvement in marketing increased after the first oil shock. In the export drive that followed, it was felt that new markets needed to be created away from the traditional ones as Japan and the United States. The government created the concept of General Trading Companies (GTCs) which handle their own, but also other firms' exports. They would set up agents throughout the world and pioneer new markets.

GTCs were expected to have economies of scale in exploiting overseas markets. Channelling exports through them would reduce excessive transaction costs involved in many small volume products. They would facilitate export expansion by playing an active entrepreneurial role in seeking out foreign markets for virtually any commodity and then finding someone to produce it. This pattern of corporate activity had been evolving informally for some years, but the government decided to formalise it in 1975 (Jones and Sakong).

Although designed to spearhead the breakthrough in the Latin American and African markets, in practice they discovered the Middle East and Europe and took a commanding position in the traditional markets. By 1977 the 13 GTCs, one of them owned by the state, handled 24.6 per cent of exports. By 1979, 12 GTCs handled 35 per cent and by 1981, 40 per cent. When it is remembered that a sizeable proportion of exports are handled by foreign firms, chiefly those for the Japanese and United States markets, the true proportions of this achievement appear (Michell, p. 195).

Conclusion

In the previous chapter we presented an overview of government policies, aimed at encouraging manufacturing growth such as incentives and intervention in the distribution of funds for investment. In this chapter we have seen that growth in manufacturing resulted increasingly in foreign- and state-owned enterprises and that private domestic enterprises grew comparatively slowly. With the notable exception of the Republic of Korea (and to some extent Mexico) this has meant - in manufacturing - that these domestic investors have only been allowed a role secondary to foreign or public enterprises. This puts the policies of the previous chapter in a different light. It has also certain important implications in its own right. The next paragraphs will discuss some of them.

Public pricing policy: In Brazil, Mexico and the Republic of Korea the State invested heavily in basic industrial inputs such as steel and petrochemicals. These state investments were justified by the essential character of the input, the fact that they involved comparatively high capital outlays, long gestation periods and the desire to build a capacity that would reflect planned rather than actual demand (and thus imply considerable initial overcapacity losses). These investments were usually too costly and risky for private enterprises to undertake and even when governments had not planned an active role, they often ended up being the main shareholders of these industries.

This policy of investing in supportive industries which are characterised by large capital needs and low profitability have, of course, contributed to the public debt problem[1] and have meant a drain on state budgets,

[1] In Brazil and Mexico some of the largest debtors are public enterprises.

particularly where these enterprises' operations were deficitary (which they often were). This has in turn led to a discussion of what should be government's attitude to "downstream" firms, and in particular how the government should price its services rendered. It is clear that cheap, underpriced industrial inputs supplied by the state have a favourable effect on the profitability of the final goods producers which use these inputs. Alternatively, a state that would want to increase the profit of its enterprises would cause lower profits in "downstream" firms. When the state supplies cheap oil, electricity or steel and when many of these downstream firms are multinationals, as in Brazil, the state has been accused of an "entreguista" mentality, serving as a "handmaiden" to the multinationals (Hewlett, 1979, p. 161).

The state may, however, not have much choice in its pricing policy. Hewlett considers that it is of course theoretically possible for the state to raise the price of its products and thus reduce multinational profits, but that would be an unlikely course of events. "Depressing profit margins in the multinational sector would be tantamount to lowering industrial growth rates. If multinational corporations were unable to earn high rates of returns in Brazil, they would begin to contract their activities in that country. Thus, suppressing profits would impede growth and ultimately imperil the legitimacy of the Brazilian state, which is, of course, based on the health of the domestic economy." (ibid., p. 161).

There is reason to doubt whether such pessimism about the state-TNC relation is warranted in all cases. In the Republic of Korea, for example, government has treated foreign firms very "roughly" on occasion without fatal long-term consequences. In the Republic of Korea "Foreign firms may be asked to increase their exports, raise the domestic content of their output, to expand output, or even to restructure operations entirely." (Luedde-Neurath, 1984, p. 22). Laws affecting foreign investors have been changed suddenly and in some cases applied retroactively. Foreign exchange laws have been used to block the payment of agreed service changes.

In recent years government has been in conflict over contractual issues with such giant corporations as General Motors and Dow Chemical. This has led to some of these retreating from the Republic of Korea altogether (but not to a wholesale departure of foreign investors). "The basic government attitude

appears to be that business ... should serve the government and not vice versa." (ibid.). The fact that the country relied relatively little on foreign firms to start with, obviously facilitated this attitude.[1]

Foreign-owned companies now produce and export a large part of Brazil's, Mexico's and Singapore's manufactures. In the Republic of Korea too their share has increased. This foreign presence is no accident. It is the result of conscious policy. Governments saw in multinationals a useful vehicle for attaining their development goals. To be sure, the role of MNCs' has been much criticised. We will briefly look at two examples of this critique: their effect on the balance of payments, and that on dependence.

Multinationals and the balance of payments: To what extent has reliance on MNEs contributed to today's serious debt problems? The nature of the product they make (and the absence of sufficient linkages with domestic producers) has led in the import substituting countries, to multinationals importing a large part of their inputs which consume large quantities of scarce foreign exchange. Governments have tried to induce firms to purchase more of their inputs locally. In the 1970s Mexico and Brazil were moreover offering generous incentives to MNCs for them to gain some foreign exchange themselves through exports. The BEFIEX programme introduced by Brazil in 1972 made exports extremely profitable through tax exemption. "For each 10 per cent of sales an auto company shifted from the domestic market to exports, the company's return on equity would increase about 20 per cent" (Evans and Gereffi, p. 150). The programme led to rapid growth of automobile exports. In other sectors its results were less favourable. In 1977, five years after BEFIEX was introduced, 19 TNC subsidiaries together still generated a trade gap of $661 million (ibid.).

This is a huge gap, but one that should be compared with that generated by other big companies. Luis Possas did that for Brazil and he found that TNCs' appetite for imports seemed no bigger than that of public and domestic private

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[1] Luedde-Neurath (p. 23) conclude from this "(1) the central issue is not whether FDI is introduced into LDCs, but precisely how it is done; (2) directive state intervention is necessary to insure the complementarity between FDI and the domestic economy; (3) the quality of such direct intervention will be a crucial determinant of whether FDI advances or retards LDC development."

firms of comparative size. He found that of the 100 largest firms in 1977, 62 were MNEs which were responsible for 30 per cent of the total trade deficit (US$717 million). The 20 largest nationally-owned firms accounted for 25 per cent of the deficit (or $591 million) and 18 state enterprises imported no less than 54 per cent (or $1,055 million) of the total (Luis Possas, p. 118).[1] A high import content thus seems common for all big enterprises and it appears that in Brazil at least large national enterprises, and particularly state enterprises, contributed much more than MNEs to the trade deficit.

Dependence: There is no doubt that reliance on multinationals puts a country in a vulnerable position. We are not referring to their market behaviour within a country, which we feel is outside the scope of this study, but to their power to commit or reduce their investments at will. Foreign investors will respond favourably to a "good" investment climate that promises them a chance to make profits, repatriate them if they so desire, a low "political risk" situation, etc.

We are looking here at four countries that have been among the "darlings" of the international investment community. Yet even in these countries a change of policy, however small, sometimes led to drastic and unexpected reductions in foreign investment. Brazil in the early 1960s is a case in point, but even the slightly more nationalistic trend of the Echeverría government in Mexico in the early 1970s had a considerable impact on DFI inflows.

> "The implications of this analysis for the countries of the semi-periphery are somewhat grim. Mexico, one of the richest and best behaved nations of the Third World, had only to stray slightly from the path of sound business practice to end up shifting the impact of TNC capital and profit flows from a positive $179 million in the 1960-69 period to a negative $349 million in the period from 1970 to 1976." (Evans and Gereffi, p. 151).

This need to "behave well" in a situation of high dependency on MNEs has, not surprisingly, given rise to concern in Singapore as well. Although admitting that Singapore had few other options than relying on MNEs in the

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[1] These figures exclude Petrobras, whose deficit in that year was over twice that of all the 100 put together.

early phases of industrialisation, Chia is unhappy about their increasing share in manufacturing. As industrialisation proceeded there should have been ample opportunity for training local managers and for local firms to develop. The rising share of MNC presence has happened in large part thanks to credits, tax exemptions and minority participation by the State. In its efforts to promote DFI there have been virtually no attempts to monitor domestic industrial entrepreneurship and the state has at best tolerated the growth of an independent local manufacturing sector. This "must be regarded as a black mark against a seemingly successful industrialisation story on Singapore" (Chia, p. 69, also Heyzer, 1983, p. 113).[1]

The relatively small share of multinationals in the Republic of Korea's exports and production could be taken as an indication that that country is less "dependent". Yet if we broaden the definition of dependency this may be less obvious because indebtedness, licensing, buyer contract specifications, etc., equally create dependence (Altschuler). Let us briefly review these other forms of dependence.

Indebtedness is, by definition, a form of dependence. The acuteness of the dependency, however, depends very much on the structure of the debt (as expressed in servicing cost as percentage of export earnings). This was relatively favourable for the Republic of Korea. In Brazil and Mexico this was much less so. For Singapore the foreign debt problem is virtually non-existent.

Licensing could be called another source of dependency. In the case of the Republic of Korea two aspects are noticeable. First, the Republic of Korea's initial growth stages used basically simple, mature technologies, the cost of which cannot have been high. In the 1970s, however, when the country

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[1] In fact, many Singapore manufacturers have been forced either to leave the manufacturing sector and go into services, trading, real estate or housing development, or to leave Singapore altogether and reinvest in manufacturing in neighbouring countries. A third possibility has been to adopt a subserviant relation with MNCs and provide them with back-up services in such areas as metal fabrication, paint manufacture, special chemicals, engine components for the shipbuilding and repair (Heyzer, 1982, p. 115). When manufacturers wanted to compete directly with foreign firms in such areas as textiles, shoes and leather goods they have on occasion come into conflict, particularly when quota restrictions exist in export markets.

diversified into more complicated products, this was less obvious. Second, the fact that DFI took so often the form of joint ventures must have kept the price of license payments down, as contrary to wholly-owned subsidiaries, the Korean partners had every incentive to keep as large a share of profits in the Republic of Korea.[1]

Buyer contract specifications are an important form of dependence, although this varies with the type of product. On the Republic of Korea Westphal, Rhee and Pursell reported that "the surveyed firms that were exporting wigs, shoes, clothing, tableware, sporting goods and electronics goods, nearly all sold a sizeable fraction of their exports - in most cases more than three-quarters - under foreign brand names, a reflection of their reliance on overseas firms for merchandising, even at the wholesale level" (p. 64). In a case such as this, the degree of dependence seems to depend very much on how easy it is to switch to another buyer.

Finally, international trade as an indicator of dependence must be considered. This has a number of aspects: composition of exports (how much is relied on raw materials and how much on manufactures); how concentrated are exports by destination; and how much is relied on exports overall. The Republic of Korea and Singapore, which export mainly manufactures, seem less vulnerable than Brazil, that for 50 per cent and Mexico, that for over 75 per cent depended on raw material exports. Mexico with its high dependence (two-thirds of its trade is with the United States) on one single trading partner appears also for that reason to be more vulnerable than the other three.

Reliance on trade in general is the most difficult aspect to assess. The two Asian countries have by far the greatest trade ratios. In the past this has helped them considerably as it allowed them to benefit from rapidly growing overseas demand for imports. Today, with lower demand and higher protectionism in the OECD and elsewhere this is a less obvious advantage.

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[1] Luedde-Neurath adds that possibilities for transfer pricing in the Republic of Korea are also extremely limited: "Customs officials ... have at their disposal not only very detailed international price lists, but detailed records of virtually all international commercial transactions involving Korea. A list is compiled daily, by individual letter of credit, stating its number, the nature of the product, its country of origin, its supplier, its purchaser, the volume involved and - perhaps most important of all - the unit price of the transaction." (p. 23).

Chapter 5

THE BENEFITS OF GROWTH

Not everybody benefits equally from economic growth. Some, such as capital owners, workers with a crucial skill or represented by a strong union may benefit more than others, such as unskilled or landless workers. Governments may intervene in this distribution process by, for instance, encouraging employment creation or by setting minimum wages. After having considered the patterns of industrial growth and the role of government and entrepreneurs it seems important to ask how different groups have benefited from growth. We will do this in this chapter and we will consider three sets of variables: employment and unemployment, wages, and the income distribution.

Before doing so, however, two preliminary remarks are in order. First, in this chapter our efforts to discuss the manufacturing sector in isolation from the rest of the economy are to meet their greatest challenge yet. In the previous chapters it had become clear that developments and policies in manufacturing can rarely be understood or explained without reference to other sectors. Where necessary, reference was made to these other sectors but the focus remained on manufacturing. In this chapter this will prove much more difficult.

The urban sector, of which manufacturing in such an important and dynamic part, is expected to absorb a large part of the available supply of labour. But its success in doing so, in terms of employment and particularly un- and underemployment, cannot be discussed in isolation from considering the origins, the dynamic factors that constitute this labour supply such as the size and the growth of the agricultural sector.

Similarly it can be argued that wages, particularly those at the lower end of the scale, are more influenced by (lack of) demand outside than inside the manufacturing sector. This problem finds it apotheosis in the discussion of the income distribution. Although wage and salary differences, to some extent, can be discussed within one sector, a discussion that also wants to consider income from other sources (rent, profits) is likely to end up in a discussion of the overall income distribution. Yet, here again, developments

in the manufacturing sector are but one among many determinants of the distribution and the changes that take place therein.

The second remark concerns the availability of data. The absence of sufficient, reliable time series data has, on occasion, been evident in the previous chapters. For the subjects discussed here their scarcity is even more notable. By insufficiency we do not refer to those of a technical nature, such as whether working hours (very long in the Republic of Korea) are considered when comparing wage developments or how to express in money terms some of the fringe benefits offered to workers.

The insufficiency of data relates rather to them being collected at too long intervals (censuses) to be able to identify the effects of policy changes; or different (national) sources differing widely among themselves; or the readjusting of earlier data by the same source. These problems come up in time series data on a number of subjects. However, they appear very frequently in the case of wages and employment. Changes in the classification of the labour force over time make censuses incomparable. A large number of people that is not assigned to a specific employment sector also makes comparisons less meaningful.

On the whole, more data tend to be available on the two Asian countries than on the Latin American countries. Perhaps as an indication of greater importance given to them since 1977, employment and unemployment data are more systematically collected and compiled in Brazil than before. This remains a weak spot in Mexico, though. On the other hand, the availability of data in the Republic of Korea[1] and Singapore is not always a good indicator of their reliability. On the whole, though, this seems superior than in the two Latin American countries.

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[1] Michell and others (e.g. Kuznets) have remarked that the accuracy of Republic of Korean employment statistics is not always obvious. This is clearest in the case of seasonal fluctuations in the non-farm economy. In 1978, for instance, when the labour market was at its tightest and unemployment at its lowest, the economically active population ranged from 15.4 million workers in the second quarter to 12.1 million in the last quarter. Some 3.3 million people were transferred from the economically inactive category. This, says Michell (p. 68) makes the unemployment rate (ratio of those classifying themselves as unemployed to economically active population) somewhat suspect.

> "Had even half the transferees classed themselves as looking for employment, then the unemployment rate in the last quarter of 1978 would have been 15.7 per cent, and not 3.6 per cent."

Employment

All four countries have had to cope with yearly increases in their labour force that were well (and sometimes much) above the average for middle income developing countries (see table 50). Most - if not all - of these yearly increases had to be absorbed by the non-farm sector. In Brazil the number of those engaged in agriculture increased by no more than 0.3 per cent per year between 1960 (12.1 million) and 1980 (13.1 million). In Mexico this increase was negligible: from 6.2 million in 1960 to 6.4 million in 1978. In the Republic of Korea those employed in agriculture decreased in absolute numbers (from 4.8 million in 1963 to 4.7 million in 1980).[1,2]

The next few pages will briefly discuss how each country coped with these challenges.

Singapore: Manufacturing industry provided more than 40 per cent of all new jobs in Singapore between 1957 and 1980. The number of jobs increased by 6 per cent per year on average between 1957 and 1970 and by 8.5 per cent in

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> "In rural areas this phenomenon can be explained in terms of members of farm households not really thinking of themselves as employed, but merely helping the family in planting out rice, or harvesting. But for no-farm households this can hardly be true. At the end of the second quarter of 1978, 8.2 million were at work, but only 7.7 million at the end of the fourth quarter. One might have expected the number unemployed to have risen by 558,000 but in fact it had risen by only 25,000. Had the former been the case, the unemployment rate amongst non-farm workers would have risen from 4.9 per cent to 11 per cent.
>
> As might be expected the tendency was more pronounced amongst women than men. Of a decrease in the number of employed of 197,000 men, only 53,000 more classified themselves as unemployed. But with a drop of 371,000 women, the number of women classing themselves as unemployed actually dropped by 28,000. Under these circumstances unemployment statistics of the Republic of Korea must be read circumspectly." (Michell, pp. 68-71).

[1] In Singapore, with its tiny agricultural labour force, the problem is hardly significant. The number went down from 32,500 to 17,232 between 1957 and 1980.

[2] In relative terms these figures are even more telling: Brazil, 54 per cent of the labour force to 30 per cent; Mexico, 54 per cent to 36 per cent; Republic of Korea, 63 per cent to 34 per cent; Singapore 6.9 per cent to 1.6 per cent.

the 1970s. In other sectors these percentages were 1.8 per cent and 4 per cent, and for the economy as a whole they were 2.5 per cent and 5.2 per cent (Chia, 1982, p. 33). Most of the employment growth in Singapore took place after 1966 the year in which employment growth surpassed labour force growth for the first time. In manufacturing, electrical machinery and repairs was by far the most dynamic sector in terms of employment growth. It grew by 22 per cent per year on average for over two decades to become the sector employing most people. Sectors that grew by over 10 per cent per year were in the 1960s: tobacco, textiles, chemicals, metal products and transport equipment. In the 1970s these were general engineering and machinery and miscellaneous.

Table 50. Average annual growth of labour force
(per cent)

Country	1960-70	1970-80
Republic of Korea	3.0	2.8
Brazil	2.5	2.3
Mexico	2.8	3.3
Singapore	2.8	2.7
Average middle income countries	2.0	2.3

Source. World Bank, World Development Report, 1982 (Washington, DC), pp. 146-147.

Government policy of attracting labour-intensive industries proved very successful. In fact, a remarkable feature of Singapore's economic development has been that it has been increasingly labour intensive! From 1957 to 1966, Singapore's labour absorption coefficient, that is, the ratio of the employment growth rate to the output growth rate was 0.29. This coefficient rose to 0.55 between 1970 and 1974 and to 0.65 between 1976 and 1979. In 1980 it dropped to 0.57, "which suggests that the corrective wage policy introduced in 1979 has helped to restrain employment growth in 1980" (Pang Eng Fong, 1982, p. 16, see table 51).

Two other features stand out in Singapore's employment situation: the large participation of women and foreigners. The percentage of women in the

labour force nearly doubled from 21.6 per cent in 1957 to 41.9 per cent in 1979.[1] Smaller sized families, better educational opportunities, changes in social attitudes, "the need for greater family income in a rising cost urban environment, and the location of labour intensive export factories in densely populated public housing estates, all encouraged and facilitated the entry of more women into the labour force" (Lim and Pang, p. 77). Demand factors related to rapid industrialisation and in particular the establishment of export industries such as electronics and garments also explain rapidly growing female participation (ibid., p. 74).

Women now account for nearly half of all workers in manufacturing[2] (ibid., p. 74). Most work in electronics (33.3 per cent of all women working in manufacturing) and textiles, garments and footwear (23.5 per cent) (Chia, 1982, p. 36). Most are young. Female participation peaks at age 22 and falls rapidly at subsequent ages (Lim and Pang, p. 18).

Foreigners make up a large part of the labour force in Singapore. In 1973 they made up one eighth (or 100,000 people). In 1980 this was still 11 per cent (or 120,000). Foreigners are over-represented at the top and at the bottom of the professional scale. In 1978 about 15,000 of them were managers, engineers and technicians, which made up 25 per cent(!) of all professional and managerial workers in Singapore, "a high proportion by any standard" (Pang Eng Fong, 1982, p. 40).

Foreigners are also over-represented among typical blue-collar workers in construction and manufacturing: 42 per cent of them work in manufacturing. Male foreign workers are mainly found in construction and shipbuilding, female foreign workers in electronics and wood working (Lim and Pang, p. 78). The highest concentration of foreigners is found in textiles where 44.4 per cent of employees were foreigners in 1980[3] (Chia, 1982, p. 37).

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[1] The simultaneous decline of the male participation rate from 87.7 to 80.7 per cent was mostly due to a sharp decrease among the 15-19 year olds, which in turn was largely the result of increased educational opportunities that keep children longer at school.

[2] In 1980, 46 per cent of all manufacturing workers were women compared to 19.3 per cent outside this sector.

[3] Government's immigration policy towards foreigners is very strict. It is designed to meet domestic imbalances (i.e. tightening supply during recessions and liberating during booms), "to increase the skills and improve the quality of the local population, and to instil in it desirable social values and work habits possessed by foreign workers" (Lim and Pang, p. 94).

Table 51. Singapore: Gross domestic product, population, labour force and employment, 1957-80

	1957	1966	1980	1974	1976	1979	1980
1. Gross domestic product (GDP) at 1968	1.9	3.1	5.1	7.7	8.6	11.0	12.2
2. Population (000s)	1 446	1 930	2 075	2 219	2 278	2 363	2 414
3. Labour force (000s)	472	571	693	851	904	1 053	1 116
4. Employed persons (000s)	449	519	651	818	864	1 018	1 077
5. Unemployed persons (000s)	23	51	42	33	40	35	39
6. Unemployment rate (%)	4.9	9.0	6.1	3.9	4.4	3.3	3.5
7. Partiipation rate (%)	57.0	52.3	56.5	57.8	57.6	61.4	63.2
Male	87.7	80.0	82.3	78.4	78.5	80.7	81.5
Female	21.6	24.2	29.5	37.1	36.4	41.9	44.3
8. Average annual increase in real GDP (% p.a.)		5.6	13.3	10.8	5.7	8.6	10.2
9. Average annual increase in population (% p.a.)		3.4	1.9	1.7	1.3	1.2	2.2
10. Average annual increase in labour force (% p.a.)		2.1	5.0	5.3	3.1	5.2	6.0
11. Average annual increase in employed persons (% p.a.)		1.6	5.8	5.9	2.8	5.6	5.8
12. Employment output coefficient (11 8)		0.29	0.44	0.55	0.49	0.65	0.57

Notes

(i) Labour force estimates include foreign workers.
(ii) Labour force defined as employed and unemployed persons aged 15 years and above.
(iii) Labour force, employed persons and unemployed estimates for 1970 have been adjusted to exclude persons not actively searching for a job.
(iv) All figures have been rounded off.

Sources. Pang Eng Fong (1982) p. 15, from: Department of Statistics: Singapore National Accounts, 1960-1973; idem: Report on the Census of Population, 1970, Vol. I; idem: Census of Population, 1980, Release No. 4; Ministry of Labour: Report on the Labour Force Survey of Singapore, 1976; idem: Report on the Labour Force Survey of Singapore, 1979; Ministry of Labour and National Statistical Commission: Report on the Labour Force Survey of Singapore, 1974; Ministry of National Development and Economic Research Centre, University of Singapore: 1966 Sample Household Survey: Report No. 1; Ministry of Trade and Industry: Economic Survey of Singapore, 1979; idem: Economic Survey of Singapore, 1980.

Most foreign workers come traditionally from Peninsular Malaysia, although in recent years employers have been allowed to recruit in Indonesia, Thailand, Sri Lanka and Bangladesh as well.

Mexico: In Mexico manufacturing steadily increased its share of the labour force. Its share went from 11.8 per cent in 1950 to 23.1 per cent (including mining and quarrying) in 1978. The number of people active in manufacturing increased from less than 1 million to over 4 million. Only construction showed a larger percentage increase. The tertiary sector has absorbed most people.

Despite the absolute and relative increase of manufacturing employment, its growth is considered disappointing, above all in perspective of Mexico's great under- and unemployment problem. This has been blamed on the nature of the country's industrialisaton pattern.

In contrast to the situation in Singapore and the Republic of Korea (in the 1960s), industrial growth was concentrated in areas that absorbed relatively little labour (e.g. automobiles, chemicals). As a result the labour absorptive capacity of industry showed a steady decline (see table 52).

In the 1950s a 5.9 per cent yearly increase in manufacturing production resulted in a 4.9 per cent yearly increase in employment. Employment creation could be maintained at the same level in the 1960s, but for this it was necessary that production grew nearly 50 per cent faster. The much lower labour absorption of the years 1970-78 was the result of both lower production growth and a decrease in the employment-output coefficient.

The industrial structure that developed after 1950 was in large part the result of the protection offered by government to selective industries. Ramirez de Wallace and Ten Kate found a good correlation between protection and growth at the industry level. Durable consumer and capital goods, for

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Unskilled foreign workers are not allowed to bring their families to Singapore. On the other hand, skilled workers, professionals and entrepreneurs who have acquired permanent residence status are allowed to bring their families. In fact, they are encouraged to settle in Singapore, especially if they are ethnic Chinese from other Asian countries (ibid.).

instance, combined high effective protection rates with vigorous growth and considerable import substitution.

Table 52. Mexico: Employment-output coefficient in manufacturing (yearly growth rates)

Year	Employment in manufacturing (1)	Manufacturing production (2)	(2)/(1)
1950-60	4.9	5.9	0.83
1960-70	4.9	8.5	0.57
1970-78	2.7	5.5	0.49
1950-70	4.3	7.2	0.60
1950-78	3.8	6.7	0.57

Source. Tomasini (1980), p. 56.

Low labour absorption in industry has also been blamed on policy-induced "distortions". The overvalued peso together with the structure of protection made the use of capital imports comparatively cheap whereas wages and other labour costs were kept relatively high in the formal sector.

Looney (1982, p. 60) compared the post-1955 situation with that during the Second World War when the market prices of capital and labour reflected the real factor supply much more accurately than after 1955. "Mexican entrepreneurs had less incentive to modify or adapt (and thereby raise the productivity of) their imported capital than they had in the earlier period ... "Entrepreneurial response" did not change: i.e. entrepreneurs reacted to market signals from both periods with considerable rationality. The outcome for the industrial structure changed because market signals changed."

It has also been pointed out that import substitution of goods incorporating a certain technological sophistication (automobiles, electrical appliances, capital goods in general, etc.) made it necessary to attract MNEs (Wallace/Ten Kate, p. 179). The bias of these enterprises towards the use of imported sophisticated technology and to production in larger units is considered to have further contributed to the decline in labour absorption (Tomasini).

Several authors (e.g. Tomasini, Looney) have remarked on the poor integration of Mexican industry and the lack of inter-industry linkages. This has been claimed on "the haphazard and ad hoc manner in which trade barriers were applied" (Looney, p. 60). "There is no evidence of a careful review leading to the protection of individual industries and activities on the basis of expected productivity growth or infant industry considerations. Rather, import limitations were initiated largely either (a) to mediate balance of payments difficulties; or (b) to pressure firm-specific interests wishing to expand into new activities" (ibid., p. 60). Trade and industrial policy decisions are taken in a highly personalised way. Protection and high profits have led to an economic structure which "when subjected to strong pressure on the demand side, has produced rising prices rather than rising productivity" (ibid.).

There is one industrial activity in Mexico that has been promoted largely for employment considerations: the Maquila programme. This industrialisation programme was set up at the border with the United States. Maquila industries employed 110,000 workers in 1979 and 130,000 in 1982 (Tomasini; Larr). Most people (60 per cent in 1979) work in electronics assembly, many others worked in footwear and clothing. Most employees are young women. In 1975 women made up 85 per cent of the labour force and in 1982, 77 per cent (ibid.).

The Republic of Korea: Manufacturing employment grew very fast in the Republic of Korea. Between 1960 and 1979 its yearly increase was 13.2 per cent average per year. From 8 per cent in 1963 the sector came to absorb 21.7 per cent of all employed in 1980.

It is remarkable that all manufacturing sectors contributed significantly to this overall picture. None grew by less than 10 per cent annually! Some sectors did particularly well, such as basic metals and metal products. Textiles and clothing and metal products became the dominant sectors in terms of employment. Together they employed over 50 per cent of the total workforce in manufacturing in 1979. The share of textiles and clothing ($\pm$30 per cent) was hardly different from the situation two decades earlier. Employment in metal products, which includes ships, boats, automobiles but also electronic and electrical goods, grew on average by 18.6 per cent per year after 1960 and by 21.7 per cent after 1970.

Rapid output growth has thus been accompanied by rapid employment growth. The switch from import substitution (with low labour intensity) to export expansion (with high labour intensity) had a strong positive effect on labour absorption. However, in the Republic of Korea too, policies to encourage further industrialisation have reduced the relative price of capital in subsequent years and thus stimulated more capital intensive activities. Policies that favoured large over small firms had a similar effect.[1] Kuznets (p. 126) noted a marked decline in labour intensity between 1963 and 1972.

Hong found that manufactured exports had become more capital-intensive even before the introduction of the Heavy and Chemical Industry Plan, which signalled government support for more capital-intensive production. The capital intensity of the country's exports increased by an average of 10 per cent per annum between 1966 and 1973. This was due, to some extent, to a change in the composition of exports, but particularly to factor substitution in production processes. From 1966 to 1968 "the direct plus indirect capital intensity of exports increased by 2.3 per cent due to shifts in the export composition but also increased by as much as 11 per cent due to sectoral factor substitutions" (Hong, p. 215). Between 1970 and 1973 these percentages were 5 and 35! Hong concludes that "some of the sectoral capital-labour substitutions, as well as shifts in export composition, may be attributed to the increase in capital stock in the Korea and the associated rise in the wage-rental ratio. However, a substantial portion may have to be attributed to a subsidy on capital use." (ibid.).[2]

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[1] Kuznets (p. 121) mentions "a tariff structure that has favoured machinery and equipment imports, import licensing tied to minimum export requirements ... government guaranteed foreign currency loans ... the perennial overvaluation of the won". Firms with access to government-owned commercial banks (mainly large firms) have obtained domestic credit at what amounts to subsidised rates (see also Jones).

[2] He adds that it is tempting to conclude from this that lower capital subsidies would have provided even faster employment growth. He wonders, however, whether this is a correct interpretation: "Korea's exports might have been less capital intensive if there had been no subsidy on capital use, but one might question whether Korea could have expanded its exports so rapidly if it had insisted upon using less capital intensive production techniques in order to maximise the employment effects of export expansion. This is because capital and labour might not be good substitutes for each other in terms of product quality and, moreover, there might be limited foreign demand for extremely labour intensive goods." (pp. 215-216).

Brazil: There are few data available to describe how the employment situation has evolved in recent decades in Brazil. The manufacturing labour force increased by 2.2 per cent yearly in the 1950s and 4.9 per cent in the 1960s. For the period 1960-80 yearly growth was 6.5 per cent. Manufacturing employment growth was particularly high during the "miracle" years 1968 to 1974. Most of industrial employment (and its growth) was concentrated in the greater São Paulo area. In that area industrial employment increased by 9.2 per cent per year between 1970 and 1974. From 1974 to 1979 this slowed down to 2.7 per cent yearly.

Carvalho and Haddad found that in the import substitution period employment did not grow in accordance with industrial output but that its "Employment growth in the export promotion period has been more substantial since Brazil's exports have been found to be labour intensive." (p. 67).

PREALC found that exports had indeed contributed considerably to employment creation in the 1970s. The number of people who found a job thanks to manufacturing for export increased from 738,000 in 1970 to 1,810,000 in 1980. They also found, however, that industrial exports declined considerably in labour intensity[1] as simultaneously the weight had shifted towards export of such not so labour intensive products as steel, metal products and automobiles away from more labour intensive products as textiles, shoes and processed raw materials.

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footnote 2 continued from previous page:

The latter argument is illustrated, in his view, by the growing protectionism that the Republic of Korea's major traditional export items such as cotton textiles, synthetic textile products, weaving apparels, footwear, various electronic products, tablewares such as spoons and forks and canned mushrooms, are facing on world markets.

Finally, he says that "slower growth in export earnings might also have resulted in slower growth of the Korean economy as a whole, thus reducing overall employment growth rates" (p. 216) (see also Kuznets).

[1] The overall labour intensity of exports also declined due to the shift towards industrial away from agricultural exports.

Un- and underemployment

Rapid employment creation in manufacturing has contributed to a rapid decrease in Singapore's unemployment rate. This went down from 9 per cent in 1966 to virtual full employment in the early 1970s. It went up in the slow growth years following the oil crisis and down again soon thereafter. The best illustration of the tightness of the Singapore labour situation are the high female participation rate and the high (over 10 per cent) participation by foreigners. One of the reasons why in the late 1970s the Singapore Government encouraged the upgrading of its industry was because it did not want to become too dependent on these foreigners.

The Republic of Korea too has seen a steady decline of its unemployment rate from 9.5 per cent in 1963 to virtual full employment in the 1970s. In 1980 it was slightly higher at 5.2 per cent. Here too, low unemployment was accompanied by a high and rising female participation ratio (42.2 per cent in 1978).

In Brazil unemployment also declined during the high growth period. It was estimated at 3.5 per cent in 1968, and 1.7 per cent in 1976. Thereafter it went up to over 5.5 per cent in 1980. In Mexico unemployment was high in the mid-1970s. Estimates vary widely though. It was estimated at over 8 per cent in 1977 in the main cities but went down in the subsequent high growth years to a little over 4 per cent in 1980. Between 1977 and 1980, 2.8 million new jobs (or 16 per cent) were added to employment.

In the two Latin American countries these unemployment figures say little about their ability to provide people with an adequate job. Whereas the problem is non-existent in Singapore and virtually eradicated in the Republic of Korea, many people in Brazil and Mexico are underemployed, i.e. they earn less than the minimum wage or work (involuntarily) fewer hours than normal. In Brazil the number showed considerable decline. Yet in 1976, still 12.2 per cent of the labour force was considered visibly[1] (compared to 17.7 per cent in 1972) and 25.7 invisibly[2] underemployed (down from 29.7 per cent four

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1 Working fewer hours than normal.

2 Earning less than the minimum wage.

years earlier) (Lowenstein, 1979). In Mexico the problem is particularly grave. Few observers put underemployment at less than 35 per cent and most put it closer to 50 per cent.[1]

Mexico is no doubt one of the countries that has the highest proportion of un- and underemployed in the world. This has been so for many years. Its political stability has nevertheless been remarkable. How can this be explained? One of the answers to this paradox is that many have voted with their feet: they have emigrated to the United States. With growing restrictions in the United States this has been done progressively in illegal ways. The number of people who swim across the Rio Grande or walk across the 2,000 mile long border is counted in thousands per day. Schlagheck (p. 86) estimated that in 1979 already 6 million Mexicans were living illegally in the United States. Today there must be many more.

Migration thus absorbs a high proportion of the yearly increase in the Mexican labour force. The Mexican Government considers it a "safety valve" and is reluctant to put a halt to it. To employers in the United States these workers are a sizeable source of cheap labour.

A worrying aspect of the migration of Mexicans is that emigrants tend to be better educated than those who stayed behind. A survey found that two-thirds of the legal immigrants had completed primary or higher schooling, a proportion twice as great as that found in the Mexican population. Over one quarter had some secondary or higher education. Illegal immigrants had a much lower level of schooling (average four years) but even this is superior to that of the average (three years) of those who stayed behind (Dominguez).

The high level of un- and underemployment in Mexico and Brazil is in large part the result of the inability of agriculture to provide more jobs. Yet industry is also blamed, and it is claimed that the import substitution policies of these countries have contributed in no small way. Criticism of the labour absorptive capacity of this policy has come from two groups: the

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[1] Most underemployed are in agriculture. In the mid-1970s it was estimated that 68 per cent of the agricultural labour force was underemployed (Luiselli Fernandez, p. 202).

"structural" and the "market" critics. For the "structural" critics the crucial problem with the low labour absorptive capacity of import substitution industrialisation is the limited possibilities of factor substitution. Foreign companies introduce capital-intensive production techniques that reflect factor scarcities in their country of origin. They do not adapt these techniques to the factor scarcities prevailing in the host country. Domestic producers tend to copy these capital-intensive/labour saving techniques. Technical change in general tends to be capital-intensive, and the lack of competitive appropriate labour-intensive techniques explain the growing capital-intensiveness of industry in their view, which considers relative factor prices of no importance (Tyler).

The "market" critics on the other hand consider that government-induced distortions in wages and capital costs have been primarily responsible for the low labour absorption. Investment incentives lower the price of capital. Minimum wage legislation, holiday pay, bonuses, severance pay and other fringe benefits increase labour costs. As a result, labour carries a price that is higher than its relative abundance would warrant and capital is cheaper than its scarcity would assume, and this leads the "market" to concentrate unnecessarily on more capital-intensive and labour-shedding investments (Tyler, 1981, p. 25; Ahmad, pp. 61, 62).

It is likely that elements of both types of criticism have played a role in the case of Mexico and Brazil (and elsewhere). There was considerable price distortion, but was there much possibility for factor substitution? Tyler (p. 26) found several econometric studies for Brazil that concluded that there was a fairly high elasticity of substitution. "If we are to confide at all in the latter studies, which find the scope of factor substitution far greater than that argued by the structuralist critics, it must be concluded that ISI[1]-associated economic policies and otherwise altering relative factor prices, must bear much of the blame in contributing to Brazil's current underemployment situation" (ibid. p. 26). This has important policy consequences and he wonders what the outcome would have been if government had decided to subsidise labour rather than capital.

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[1] Import substituting industrialisation.

Despite the findings of the studies quoted by Tyler, one cannot help wondering whether the factor substitution possibilities in such high growth industries as domestic appliances, automobiles, pharmaceuticals, cosmetics, steel and rubber, were really that great. Moreover, in each case it must be asked whether capital and labour were really good substitutes for each other and what the effects of substitution would be on quality. The latter may not be so important for certain industries in a highly protected environment, but must be considered if exports are considered in the future.

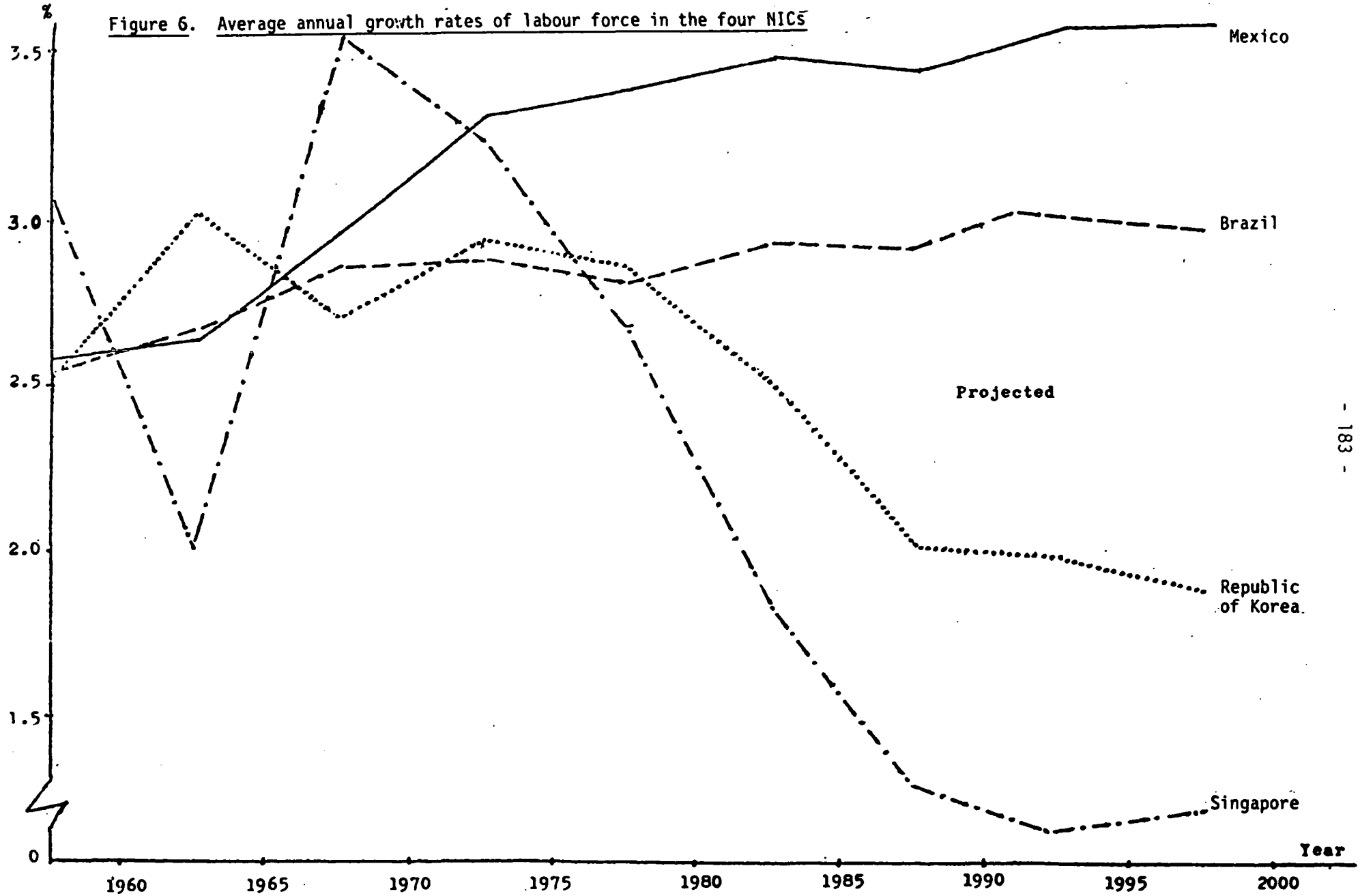
If possibilities of factor substitution per product are not too great, then the problem is also one of product choice. In this respect the strategies followed by the Republic of Korea in the 1960s and Singapore seem superior from the employment point of view as these countries encouraged production of such labour intensive goods as clothing, footwear, electronics, wigs, sporting goods, etc. It must be added that the importance of the example of these two countries lies, above all, in their concern for employment as explained in their policies. It is doubtful whether such huge countries as Mexico and Brazil could copy their industrial structure, or export such a high percentage of their output.

Employment prospects

Not only are current employment problems much more serious in the two Latin American countries, prospects for the future are also bleaker than in Singapore and the Republic of Korea. One reason for this is the expected high labour force growth. In the past two decades annual labour force growth was high in all four countries. However, for the years to 2000 growth prospects differ considerably between them. The declining trend of the last two decades in the two Asian countries is forecasted to continue, whereas in the other two the yearly labour force growth rate will remain the same or even increase! Mexico's labour force growth rate is expected to be nearly triple that of Singapore in the years to come! (see graph).

Differences in labour force growth are a function of high population increase in the past and by efforts to reduce it. In Mexico, which historically has had one of the highest population increases, the government, until recently, has been very reluctant to get involved in family planning on a large scale. The Government of Singapore, in contrast, became very actively

Figure 6. Average annual growth rates of labour force in the four NICs



Source: ILO Labour force projections and statistics 1950-2000, Geneva 1977.

involved. Singapore's family planning policy goal of reducing the average number of children per family from 3.1 to 2.1 is as rigorously pursued as so many of its other policy goals.[1]

Another reason for concern over the employment situation in the two Latin American countries is the fact that the participation rate of women there is still fairly low. Brazil was reported to have a 13.9 per cent female participation rate in 1978 (Lowenstein, 1979, p. 2). For Mexico it was estimated at 20 per cent in the late 1970s (Lowenstein, p. 3).[2] These figures compare with over 40 per cent in Singapore and the Republic of Korea.

The female participation rate in the Latin American countries has not increased much over the last two decades. The low rates have been explained by a lack of demand, cultural restraints and the absence of child-care facilities. "It is also linked to the education of women. Traditionally, if not all members of a family could be educated, schooling was reserved for the boys. Attendance records shows that as early as the fifth grade, the drop-out rate for girls exceeds that for boys, and the proportion of women continuing their education continues to drop at each advancing level." (Lowenstein, 1979, p. 3 - about the Mexican case).

The high female participation rate in the Asian countries is explained on the demand side by rapid economic growth and industrialisation, especially the establishment of export manufacturing industries such as electronics and

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[1] The government's campaign that started in 1972 with the slogan "two is enough" provided both carrots and sticks. Parents were persuaded that they were better off with fewer children. The availability of contraceptives was greatly liberalised and abortion and sterilisation was made much easier.

Other measures were meant to work as a "stick". Child allowances are lower for the third child than for the first two. Paid maternity leave is only possible for the first two children. Hospital rates for giving birth are progressive. Large families are discriminated against in public housing and access to education. Finally, if one of the parents is not a citizen of Singapore, the mother is obliged to have herself sterilised after the birth of her second child (Trolliet and de Mitry, p. 27).

[2] The many women who work as domestic servants and on family farms are, however, not included in these figures. Yet, they are no doubt a considerable number. In the Republic of Korea where this category is covered by statistics, the share of "unpaid family workers" went down from 31.3 per cent in 1963 to 18.8 per cent in 1980 when female employment went up quickly (Fields, p. 20).

garments. "On the supply side smaller family size, more education for women, changes in social attitudes, the need for greater family income in a rising cost urban environment, and the location of labour-intensive export factories in densely populated public housing estates, all encouraged and facilitated the entry of more women in the labour force." (Lim and Pang, p. 77 about the Singapore case).

Singapore and the Republic of Korea have now reached a level of female participation comparable to that of some of the industrialised countries (see, appendix table). The low levels of Mexico and Brazil and their likely increase will mean an extra challenge to employment creation in these countries. High economic growth will thus be imperative. In a longer perspective it will be important to further reduce population increase. This is indeed happening, but its effects on labour force growth will take many years.

Wages

Rapid growth has led to the creation of many new jobs. It has also meant better living conditions for most. Between 1960 and 1980 per capita incomes (in dollar terms) grew by 2.6 per cent per year in Mexico, by 5.1 per cent in Brazil, by 7.0 per cent in the Republic of Korea and by 7.5 per cent in Singapore (World Bank, WDR, 1982, pp. 110-111). Secondary labour and living conditions also improved considerably.

However impressive, these averages only tell half the story though, as it is equally important to know how these benefits were distributed among different groups of the population. This section and the next try to come up with a contribution to this. This section will look at wages in the manufacturing sector. The next will tackle the broader issue of the changes in the overall income distribution. The differences among countries are great and we will try to come up with some explanatory factors.

Wage trends can be measured in terms of average and minimum wages. There are a number of methodological problems involved in establishing average wage trends and that is why different sources may not concide. Moreover, averages may hide huge disparities among different groups. Where they are set, minimum wage trends may be more easy to follow, although different wages for different

regions and indeed different professions may constitute a complicating factor.[1] In Brazil and Mexico the government has set minimum wage levels.[2] The degree to which these rates actually signify a minimum for the worker is a matter of much dispute. The significance for formal sector wages is nevertheless great as, particularly in Brazil, many jobs in the State-owned or State-funded sector, as well as rents and other financial instruments are expressed in x times the minimum wage.

In Singapore government influence on wages has also been great. In 1972 this influence was formalised when the National Wage Council was set up that recommended a yearly wage increase. In the Republic of Korea, government has not directly intervened in the wage setting process, although there too, the prerogatives of trade unions were seriously curbed which in turn weakened the bargaining power of the workers, of course.

Real wages have shown a spectacular increase in the Republic of Korea. In 1978, manufacturing wages were four times their 1960 level in real terms. In Singapore, they were 53 per cent higher in 1980 as compared to 20 years earlier. This "modest" increase was accompanied by a great improvement in broadly based state-financed or State-subsidised secondary labour and living conditions. In Mexico, manufacturing workers earned on average around two-thirds more in 1980 than two decades earlier. In Brazil the increase was 44 per cent between 1966 and 1980. These increases have been accompanied by widening differences among wage-earners. The next paragraphs will briefly expand on this.

Republic of Korea: Wages have shown a spectacular increase after 1960 - when admittedly their level was very low. Real wages in manufacturing were virtually unchanged between 1960 and 1967. When conditions on the labour market became tight in the late 1960s, their increase was very fast. They doubled between 1967 and 1972. Slower economic growth and high inflation led to stagnation until 1975 whereafter rapid growth resumed. In 1978 real wages

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[1] In Mexico in 1978 there were different minimim wages for 111 labour market areas. Moreover, in the federal district alone, different rates were established for 82 different skills! (Lowenstein, 1979, p. 6).

[2] Strictly speaking, in Mexico, they are set by tripartite commissions, but these tend to follow government guidelines.

were nearly 80 per cent higher than three years earlier (see table 53). This reflects the progressive reduction of un- and underemployment as well as the shortage of skilled workers, many of whom went to work in the Middle East. After the three years of very high real wage increases (1976: 15.5 per cent; 1977, 21 per cent; 1978, 17 per cent) their growth was "only" 8.6 per cent in 1979. In 1980 they declined by 8 per cent (Chapponnière, p. 72).

Manufacturing in the sector which consistently pays the lowest wages in the economy (see EPB, p. 265). Within manufacturing such highly export-dependent sectors as textiles and clothing pay in turn considerably less than the average (Chapponnière, p. 75).

The wage differentials are largely explained by the fact that many women work in manufacturing, which receive much lower wages than the average. Between 40 and 44.5 per cent of the manufacturing labour force are women (in 1980) (Michell, p. 224). In leading export products this percentage is even higher: 50 per cent in rubber shoes, 55 per cent in electronics, 55 per cent in other manufacturing, 68 per cent in textiles and 77 per cent in clothing. Women earn between 50 and 70 per cent of what their male coleagues earn for often the same kind of work (van Liemt; Chaponnière).[1]

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[1] This predominance of low-paid women in crucial export sectors has important consequences for the economy, says Michell:

> "If equal wages had been paid for equal work, then either male wages would have had to drop drastically, or a substantial portion of the Republic of Korea's export industries might ground to a halt. It is assumed that while women earned less than their marginal product, men probably earned more than their marginal product, so that the aggregate wage bill was close to the marginal product of all employers in those industries where women formed a substantial part of the labour ofrce and not all the benefits went to the employer. Certainly estimates of profits in such industries do not suggest a high profit ratio. In new industries where men predominated such as shipbuilding, iron and steel, petrochemical industries and vehicle manufacture, the high wages paid to men in textiles and electronics encouraged a higher degree of efficiency in the use of labour ... than might otherwise have been the case. Likewise the growing shortage of young women in preferred age cohorts encouraged traditional export industris to improve their labour efficiency in the 1970s." (pp. 224, 225).
>
> Michell draws an interesting conclusion regarding social equity from this heavy reliance on female labour. Until the shift towards heavy and chemical industry the country's export success was not so

Table 53. Republic of Korea: Real wages in manufacturing, 1960-78

Year	Monthly earnings per employee (won)	WPI (II)	CPI (III)	Real wages (won) (I/II)	(I/III)	Real wage in index (1975 = 100) by WPI	by CPI
1960	2 390	13.0	13.4	17 923	17 388	46.7	45.3
1961	3 610	14.8	15.0	17 635	17 400	46.0	45.3
1962	2 780	16.1	1.63	17 267	17 055	45.0	43.2
1963	3 180	19.4	21.6	16 392	14 722	42.7	38.4
1964	3 880	26.2	29.4	14 809	13 197	38.6	34.4
1965	4 600	28.8	31.9	15 972	14 420	41.6	37.6
1966	5 420	31.4	34.9	17 261	15 530	45.0	40.5
1967	6 640	33.4	36.8	19 880	18 043	51.8	47.0
1968	8 400	36.2	39.0	23 204	21 538	60.5	56.1
1969	11 270	38.5	40.7	29 273	27 690	76.3	72.2
1970	14 150	42.0	44.0	33 690	32 159	87.8	83.8
1971	17 349	45.7	46.5	37 963	37 310	98.9	97.2
1972	10 104	52.0	51.7	38 662	38 886	100.7	101.3
1973	22 330	55.6	56.2	40 162	39 733	104.6	103.6
1974	30 209	79.0	82.1	38 239	36 795	99.6	95.9
1975	38 378	100.0	100.0	38 378	38 378	100.0	100.0
1976	51 685	112.1	109.8	46 106	47 072	120.1	122.7
1977	69 168	122.2	116.7	56 602	59 290	147.5	154.4
1978	92 907	136.5	123.6	68 064	75 167	177.4	195.6

Source. Young Chul Park, in Lee (ed.), from BOK: Economic Statistics Yearbook, various issues.

Singapore: The case of Singapore poses in some ways an interesting contrast to that of the Republic of Korea. In the Republic of Korea wages were very low in 1960. In Singapore they were, after Japan, the highest in Asia. The government considered that only by keeping wages low could the unemployment problem be solved and this is indeed what happened. Again, in contrast with the Republic of Korea, where no social security exists and government spending on social development (other than education[1]) is low,[2] the Singapore Government provided its population with a unique set of secondary labour and living conditions.

High unemployment, increased female participation and government's control over the trade unions all helped to government preventing real wages to increase between 1960 and 1968 (table 54). In fact real wages declined by 10 per cent between 1963 and 1968. In certain labour-intensive export industries real wages fell even more. In textiles, for instance, wages fell by 20 per cent between 1963 and 1968 (Trolliet and de Mitry, p. 51).

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footnote 1 continued from p.188:

much based on an adequate supply of well educated labour, but on an adequate supply of well educated young females. "However, since education fees are identical for men and women, the rate of return to families educating a female has been approximately half that for a man. What it represents is a considerable transfer from poorer households (since middle and upper class girls do not enter industry) to the nation in general". He concludes that:

"it may not be unreasonable to ask for a sacrifice on behalf of national development by girls in the age groups 16-25, but it is highly regressive to tax-poorer families who pay to educate them. An extension of free education and perhaps an extension of non-pecuniary honours in recognition of this contribution of the young female labour force seems called for." (p. 225).

[1] Primary schooling in the Republic of Korea is free but beyond primary school, schooling becomes an expensive business for households. The high priority given to schooling has led to many students taking on extra classes. The costs of this together with other costs such as textbooks, uniforms, transport, supplies and fees can become the main expenditure items for particularly the poorer households. The cost of educating one college student has been found to take as much as 40 per cent of a wage-earner's household expenditure.

[2] Medical costs in the Republic of Korea are now considered to be as high as in the United States and many people have to borrow money at high interest rates to be admitted to hospital.

Table 54. Singapore: Average annual remuneration per worker and labour cost per unit of output, manufacturing sector, 1960-80

Year	Average annual remuneration per worker[1]		Consumer price index	Average annual real earnings per worker[2]		Labour cost per unit of output
	S$	Index		S$	Index	%
1960	2 044	100.0	100.0	2 044	100.0	14.3
1961	2 166	106.0	100.4	2 157	105.5	13.8
1962	2 265	110.8	100.0	2 245	109.8	11.6
1963	2 313	113.2	103.1	2 243	109.7	11.6
1964	2 266	110.9	104.7	2 164	105.9	12.0
1965	2 266	110.9	105.0	2 158	105.6	12.1
1966	2 335	114.2	107.1	2 180	106.7	11.4
1967	2 360	115.5	110.6	2 134	104.4	10.1
1968	2 300	112.5	111.4	2 065	101.0	9.7
1969	2 578	126.1	111.1	2 320	113.5	10.0
1970	2 491	121.9	111.5	2 234	109.3	10.2
1971	2 661	130.2	113.6	2 342	114.6	10.7
1972	2 802	137.1	116.0	2 511	122.8	11.3
1973	3 238	158.5	142.6	2 271	111.1	10.9
1974	4 108	201.0	174.5	2 354	115.2	8.1
1975	4 621	226.1	179.0	2 582	126.3	9.4
1976	4 669	228.4	175.6	2 659	130.1	8.6
1977	4 888	239.1	181.2	2 698	132.0	8.4
1978	5 215	255.1	190.0	2 745	134.3	8.8
1979	5 704	279.1	197.6	2 887	141.2	8.3
1980	6 706	328.1	214.4	3 128	153.0	8.0
Average percentage annual increase:						
1960-72	2.7	1.2	1.7			
1972-80	11.5	8.0	2.8			
1960-80	6.1	3.9	2.2			

[1] Refers to persons employed directly in the process of production, that is, production workers.

[2] Average annual remuneration per worker deflated by the consumer price index.

Source. Chia (1982). Data on average remuneration and labour cost per unit of output are from Singapore, Department of Statistics: Report on the Census of Industrial Production, various years; data on the consumer price index are from Yearbook of Statistics.

When full employment was reached around 1970 it became more difficult to keep wages under control. Between 1968 and 1972 these increased by 20 per cent in real terms. The government then took formal control over the situation and set up the National Wage Council. This "tripartite" body successfully "recommended" low wage increases.

"Since 1972 wage guidelines, though voluntary, have strongly influenced wage increases in both the private and public sectors. During, and in the few years immediately after the world recession of the mid-1970s, the Council recommended modest wage increases to ensure the competitiveness of the labour-intensive export industries" (Lim and Pang, p. 34). These guidelines, while helping to keep exports competitive, did not encourage firms to use labour efficiently or to upgrade their operations quickly. As a result, labour shortages intensified and manufacturing productivity suffered, growing by an average of only 2-3 per cent a year until 1979. In 1979, the Council began a three-year wage correction policy, i.e. recommended high wage bill increases averaging nearly 20 per cent a year, to restore wages to market levels.[1] The government has indicated that in future wage changes will be more closely tied to productivity gains. The Council's guidelines will be more flexible to reflect more fully than in the past the diversity of productivity gains among firms (Lim and Pang).[2]

All in all, nominal wages in manufacturing increased by 2.7 per cent in the 1960s and by 11.5 per cent in the 1970. In real terms these increases were 1.7 per cent per year on average between 1960 and 1972 and 2.8 per cent per year between 1972 and 1980 (Chia, 1982, p. 39).[3]

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[1] Workers, however, enjoyed average wage increases of about 14 per cent a year because part of the increase in the employer wage bill was channelled into increased Central Provident Fund contributions and into a Skills Development Fund to train and upgrade workers required by the restructuring strategy. Thus the inflationary consequences of the wage correction policy were minimised.

[2] The Wage Correction Policy has apparently met with some success. Employment creation in the economy, especially the manufacturing sector has slowed. National productivity gains have doubled, averaging over 5 per cent a year since 1979. Foreign investment commitments, most of it in desired industries, rose to record levels, despite the large wage increases. At the same time, there has been a resurgence of local manufacturing investment commitments (Lim and Pang, pp. 34, 35).

[3] Chia claims that increases in weekly earning in manufacturing were exclusively due to an increase in the numbers of hours worked. Real hourly earnings of workers in manufacturing remained at virtually the same level (Chia, 1982, p. 40).

As in the Republic of Korea, manufacturing is one of the lowest paying sectors. Among the reasons why manufacturing pays such low wages is that among its employees there is a high proportion of unskilled, foreign and female workers, all of whom tend to be paid less than the average.

Women earn on average only 65 per cent of men. In manufacturing they receive about 54 per cent of the mean income of all workers, and only 45 per cent of the mean income of male manufacturing workers. The concentration of women in labour-intensive export manufacturing industries coincides with their low mean incomes.

The modest wage increases have been accompanied by rapid progress in non-wage components which have drastically improved workers' welfare. Low-income workers have benefited from subsidised housing and other public welfare facilities, such as health and education which have rapidly expanded.

Public social services such as health, sanitation, education and housing are available to the population free or at low cost. Over two-thirds of the population lives in a flat provided by the government Housing and Development Board. Rents are low. It is also possible to use one's CPF savings to purchase a flat. Much attention is given to health care and education. Secondary and higher education is fee-paying, but ample financial aid is available for bright students.

Among the secondary labour conditions special mention should be made of the Central Provident Fund (CPF). This State-controlled social security system is both an important source of forced savings for financing the development effort and a way to provide old people, if not with a pension, with a lump sum, the fruit of their (and their employers') savings.

These great improvements in the basic needs of the population gained the government a large measure of political support. It also contributed to economic growth and industrial development. "Improved health and education represented an investment in human capital which would pay off in more productive workers, while mass public housing at low cost represented an implicit subsidy to low real wages in manufacturing. The provision of subsidised public social services therefore contributed to the competitiveness of labour-itensive export manufacturing - by "buying" the contentment of the

working classes, thus ensuring political stability and labour peace, and by ensuring that low wages did not imperil basic standards of living." (Lim and Pang, p. 142).

Mexico: Average real wages in the Mexican manufacturing industry showed a steady increase of 4.5 per cent per year in the 1960s. Minimum wages increased even faster (5.7 per cent average per year). In the 1970s growth became more erratic. The first two years still showed some improvement and so did 1976. In that year the outgoing President Echeverria decreed no less than three increases of the minimum wage: 21 per cent in January, 23 per cent in October and 9 per cent in December.[1] On the whole, and no doubt because of accelerating inflation, overall wage increases were much smaller in that decade. Average wages increased by 15 per cent and minimum wages by 10 per cent (table 55).

Secondary labour conditions are generous in Mexico. Upon cessation of service the worker receives 12 days wages for each year of service, and sometimes more. The law also stipulates paid holidays and vacation and a Christmas bonus (equal to 15 days pay). There is a profit-sharing scheme. A fund (INFONAVIT) to overcome the shortage of housing was set up in 1972 which is financed by a 5 per cent payroll tax. Social security is well developed. The Mexican Social Insurance Institute (IMSS) exists since 1942. Together with its sister organisation for State employees, ISSSTE, it provides for medical care, unemployment benefits, old age and disability pensions.

Social security is financed by the State, workers and employers. The exact distribution of the contribution of each differs per wage group, number of employees in the company and type of benefit. For IMSS medical expenses and old age pensions, for example,[2] 12.5 per cent of the total premium is contributed by the Federal Government, 25 per cent is deducted from employees salaries, and 62.5 per cent is paid by employers (Schlagheck, 1980, p. 101). Depending on the wage level of the employee fringe benefits payable by the employer add about 60 per cent to base payroll expenses (ibid., p. 102).

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[1] "The net result was that overall monthly earnings jumped 151 per cent in Mexico during President Echeveria's administration (1970-76), adding considerably to the country's vicious wage-price spiral." (Schlagheck, 1980, p. 64).

[2] Excluding workman's compensation.

Table 55. Mexico: Average and minimum real wages in manufacturing (indices)

Year	Average wage			Minimum wage	
	(1) (1960=100)	(2) (1963=100)	(3) (1970=100)	(1) (1960=100)	(3) (1970=100)
1960	100.0			100.0	
1961	101.6			97.3	
1962	109.7			117.4	
1963	129.1	100.0[1]		116.8	
1964	133.3			137.7	
1965	140.2			135.2	
1966	145.4			155.2	
1967	150.3	112.4[1]		150.8	
1968	154.1			167.2	
1969	158.8	124.9[1]		161.5	
1970	156.0		100.0	174.3	100.0
1971	161.3		103.1	165.3	94.8
1972	162.9		103.8	185.2	107.3
1973	163.3	102.3	104.3	173.9	95.8
1974	168.9		107.3	189.4	111.7
1975	166.4		113.3	190.5	112.0
1976		114.7	123.1		120.1
1977			125.0		126.0
1978		113.0	122.4		120.9
1979			121.0		117.7
1980			115.4		110.0
1981		110.1			
Average annual growth rates:					
1963-69	3.5	3.8			
1970-77	2.3		3.2	3.0	3.4
1973-78		2.0	3.3		
1960-70	4.5			5.7	

[1] Taking total number of persons engaged.

Sources. (1) Solis (1981).
(2) Own calculations from the Manufacturing Selected Industries Survey data, taken from the Yearbook of Industrial Statistics. Figures deflated by the consumer price index from the World Bank tables, 2nd edn., 1980. For 1963 the CPI was calculated from the International Financial Statistic series.
(3) PREALC: "El mercado de trabajo en cifras, 1950-1980" (Santiago, 1982).

However impressive wage developments have been and however admirable official social security provisions are, it appears that only a minority has benefited and that most people are excluded. It has been estimated, for example, that in the 1970s up to 80 per cent of rural workers and 50 per cent of urban workers received less than the minimum wage (Looney, 1982, p. 120). The problem with social security is similar. This is estimated to benefit only around one third of all workers and their families.

Brazil: There is general agreement on two aspects of wage development in Brazil. First, the well educated, and in general those possessing a certain skill did well - and some very well - during the high growth period. Second, the officially set minimum wage showed a dramatic decline until 1974 (and a small increase thereafter). There is wide disagreement about the question to what extent the decline of the latter is representative for the fate of the masses.

Table 56 shows some figures for average real wages that indicate a significant increase: 3.5 per cent per year on average in the 1970s, or 60 per cent between 1970 and 1979. These figures understate how well certain groups did. Schlagheck reported that skilled workers improved their real wages by 2.6 per year between 1964 and 1974, and executives saw their income increase by 8.1 per cent on average in that period (p. 41; see also Robock). He found that in 1973 in São Paulo, accountants, sales managers and marketing directors were earning annual salaries of US$11,000, US$23,000 and US$46,000 respectively. Four years later in 1977 these were between 50 and 100 per cent higher. Legal minimum wages at that time were much lower (p. 41). In May 1975, the legal minimum wage was only US$68 a month in the city of Rio de Janeiro and the lowest legal minimum wage in the country was US$48 (Robock, p. 135).

The system of minimum wages was introduced in 1940 with the intention of ensuring that the worker received the minimum necessities of nutrition, clothing and housing. But as a subsistence level it is low. Moreover, it showed a continuous decline until 1974. This decline started well before the 1964 coup d'état and was already noticeable during the 1961-64 Goulart presidency. It was particularly fast between 1965 and 1974. After 1974, with the for the government so disappointing result of the election, the real minimum wage was allowed to recoup some of its lost terrain. When "Apertura"

Table 56. Brazil: Manufacturing and minimum real wages (indices)

Year	Average wages			Minimum wages
	(1) (1966=100)	(2) (1970=100)	(3) (1970=100)	(3) (1970=100)
1966	100			
1967	98			
1968	104			
1969	112			
1970	102	100	100	100.0
1971	n.a.		104.1	100.0
1972	126		113.5	102.8
1973	129	123	114.4	98.3
1974	137		117.0	91.5
1975	130		128.2	96.0
1976	143	137	132.7	97.2
1977	146		138.3	97.7
1978	145		145.2	99.4
1979	160		147.5	99.4
1980	144	151	155.3	101.7
Average annual growth (%)				
1966-70	0.5			
1970-80	3.5	4.2	4.5	

Sources. (1) Own calculations based on data for employment and earnings for the manufacturing sector, from the Yearbook of Industrial Statistics, until 1979. For 1979 and 1980 data from the Anuario Statístico do Brasil was used. The PCI from the world tables, 2nd and 3rd editions was used to deflate.
(2) IBGE, Brazil: Series statísticas, 1977, and Anuario Statistico do Brasil. Deflated by the CPI for Rio de Janeiro. Conjuntura Econoômica, Apr. 1981, taken from: "Industrial policies and manufactured exports", World Bank (for officialuse only), 1982.
(3) "Mercado de trabajo en cifras, 1950-1980", PREALC, 1982.

brought greater and more trade union activity, it was given even more attention. After 1979, at a time when the government was making great efforts to bring down inflation, and higher wages were undercompensated for inflation (e.g. 85 per cent compensation at 15 times the minimum wage), the minimum wage was even overcompensated (110 per cent increase).

Nevertheless the decline in purchasing power has been impressive, particularly during the very high growth years. DIEESE calculated that in order to purchase a minimum basket of essential goods a worker receiving the minimum wage would have had to work 65 hours in 1959. In 1965, he would have had to work 88.25 hours and in 1974 163.5 hours to buy the same basket. In 1978 this improved to 137 hours (in 1980, 157 hours and 131 hours in 1982) (Boletin do DIEESE, abril de 1983, p. 7).

The discussion on the minimum wage has centred not so much on its level, but on how significant it was as an indicator for social progress. Those (including the government) who want to play down the importance of the minimum wage as a measure for the well-being of the population at large, claim that the number of people who earn the minimum wage went down during the high growth years. They argue that those who earned the minimum wage in 1974 are not the same as those who were earning it five or 10 years earlier (implying that those have moved up the scale). For those who were previously un- or underemployed, earning the minimum wage is equal to having gained a wage increase.

Those who consider the minimum wage (and thus the worsening trend) indicative for the well-being (or the absence of it) of the masses, point out that the 1970 census, for example, found that 60 per cent of the rural and 20 per cent of the urban workers were earning less than the lowest minimum wage prevailing in that year (Robock, p. 136). In 1973 approximately 54 per cent of Brazilian workers still earned less than the minimum wage (Hewlett, p. 323). In 1975, 19 per cent of the employees in the greater São Paolo area earned one minimum wage or less; 54 per cent earned up to two minimum wages, and 75 per cent up to three (Justice and Peace Commission, São Paolo, p. 46).

In Brazil labour legislation has created many benefits such as the forced savings schemes (PIS/PASEP) and social security (INPS). An Employees Indemnity Guarantee Fund (FGTS) exists. Access to schooling for the lower

classes has greatly improved, although in the early 1970s still 20 per cent of children of school-going age did not attend school. The National Housing Plan established in 1964 financed, through the National Housing Bank, the construction of many new dwelling units. As in Mexico, however, it seems that these measures have benefited the workers in the urban formal sector above all and those outside that sector much less.

Equity and the income distribution

Economic and industrial growth has resulted in considerable material progress. A clear indicator of this is the smaller portion of the population (but not necessarily a smaller number!) that lives below the poverty line. Indicators such as the infant mortality rate, the adult literacyrate and the percentage of people attending secondary school have all shown considerable improvements in the last decades (see table 57).

There are, however, important differences across countries and even these few indicators of the table make that clear. The infant mortality rate in the Republic of Korea, for example, has only now reached the level of Singapore two decades ago. Brazil in turn has only now reached the level that the Republic of Korea had reached in 1960!

In secondary education similar comparisons can be made. The level of schooling attained in 1960 in the two Asian countries was much higher than that of the two Latin American countries. Today the proportion of the relevant age group attending secondary school in Brazil has reached the level of Singapore 20 years ago. These few indicators are fairly representative of many others not included in the list.

A more serious matter is that in the countries that did relatively less well these averages hide huge differences between different groups. This is well illustrated by the income distribution in the two Latin American countries which is among the most uneven in the world and, what is more serious, has shown a steadily worsening trend. The rest of this section will briefly discuss some of the evidence available and the background of this poor distribution.

Table 57. Selected indicators of social development

		Brazil	Mexico	Republic of Korea	Singapore
Infant mortality rate (aged 0-1)	1960	118	91	78	36
	1980	77	56	34	12
Adult literacy rate	1960	61	65	71	n.a.
	1980	76	83	93	83
Number enrolled in secondary education as % of age group	1960	11	11	27	32
	1981	32	51	85	65
% of people living below the poverty line	1960	[6] 31.5 (d)	45[1](a)	41[4](c)	37[3](b)
	1980		20[2](a)	15[5](c)	18(b)
Gini coefficient	1960	.55(d)	.53[1](a)	.34[4](c)	.499[3](b)
	1980	.59[6](d)	.58[2](a)	.38[5](c)	.455(b)

Notes. (1) 1958; (2) 1975; (3) 1966; (4) 1965; (5) 1976; (6) 1970.

Sources. (a) van Ginneken, families; (b) Fields, individuals; (c) Fields, households; (d) Morley, families; others: World Bank: World Development Report, 1982, 1983, 1984.

Before doing so, it should be stressed once again that however telling these figures are, they reflect the end result of a long development process that started well before 1960 and that moreover, depended not only on manufacturing. The role of agriculture is perhaps more important as the two extreme cases of Mexico (where the large agricultural sector virtually stagnated after 1965) and Singapore (where this sector is insignificant) illustrate. Yet manufacturing growth and industrialisation policies have been equally important as we have tried to show in the previous sections and chapters.

The Singapore experience is quite exceptional in that its income distribution actually appears to have improved between 1966 and 1972, when the Gini ratio went from 0.4983 to 0.4428 (see table 58). This may be explained by decreasing unemployment in these years. In the 1970s the distribution

hardly changed. It stood at 0.455 in 1980.[1] The household income distribution also showed some improvement and went from 0.40 in 1972-73 to 0.37 in 1977-78. This may have been the result of increasing female participation.

Table 58. Singapore: Gini ratios

Year	Personal income distribution		Household income distribution
	(1)	(2)	(3)
1966	0.4983	0.499	
1972	0.4428	)	) 0.40
1973	0.4570	)	)
1974	0.4342		
1975	0.4484	0.452	
1977			) 0.37
1978			)
1980		0.455	

Sources. (1) Rao and Ramakrishnan, p. 24.
(2) Fields, p. 28.
(3) Pang and Tan, p. 158

The Republic of Korea is the outstanding example of a country that has combined rapid economic growth and a remarkably equal income distribution. To a large extent this was the result of events that took place before the rapid growth perid. After rapid growth had started it appears that the income distribution has slightly worsened although it remained remarkably equal. It seems therefore appropriate to discuss briefly both the origin of the equal income distribution and how post-1962 events have affected it.

[1] The fact that many enterprises and many unskilled workers are of foreign origin has no doubt contributed to this fairly equal income distribution, in particular to the extent that each group repatriated their respective profits and earnings.

The income distribution of the Republic of Korea was one of the most equal in the world in the early 1960s (see table 59). This was the result of many factors, the most important ones being the large-scale destruction of physical property during the civil war and the thorough land reforms that took place in the late 1940s and early 1950s (van Liemt). These land reforms resulted in maximum farm sizes of three cheongbo (approximately 3 ha).

Table 59. Republic of Korea: Income distribution (in per cent of total income) and Gini ratio

Year	Top 20%			Middle 40%		Bottom 40%			Bottom 20%	Gini
	(1)	(2)	(3)	(1)	(3)	(1)	(3)	(4)	(2)	(5)
1964	41.8	45		38.8		19.3			4	
1965										0.34
1970	41.6	44		38.8		19.6			4	0.33
1975										
1976	45.3	45.3		37.8		16.9			5.7	0.38
1978			46.7		37.9		15.4			
1980								16.1		

Sources. (1) Choo, Hak Chung in Michell (p. 226).
(2) Chaponnière (World Bank and Korea Exchange Bank).
(3) World Bank in Michell (p. 226)
(4) Fifth Five-Year Plan in Michell (p. 226).
(5) Fields, p. 28

It is remarkable that on several occasions government has intervened to maintain equality. The Chang Myon regime, for instance, passed a special law for punishing those who had accumulated wealth illicitly during the Rhee years by taking advantage of their positions and power (Jones and Sakong, p. 280). President Park passed a similar law in June 1961 to deal with illicitly accumulated wealth.[1] Under this law, Park's military government "immediately arrested most of the nation's leading business men" (ibid., p. 281).

[1] This law defined as illicit profiters - all those who between 1 July 1953 and 15 May 1961 had "(1) illicitly earning profits totalling more than 100 million Hwan by either purchasing or renting publicly-owned properties (largely those confiscated from the Japanese); (2) obtained loans or purchases of more than 100,000 dollars worth of government - or bank-owned

After 1963, there have been simultaneous trends towards a widening as well as towards a narrowing of income differentials. On balance the income distribution seems to have slightly improved in the 1960s and worsened in the 1970s.[1] Each of these trends found their origin in policies that meant to directly affect the income distribution, as well as in other policies that indirectly affected it. We will briefly discuss each.

The policies that meant to influence the income distribution in a positive way included the continued enforcement of the 3 cheongbo ceiling as well as measures that banned the use of, or heavily taxed many consumer goods. The importation of foreign cigarettes was for a long time strictly prohibited (Jones), car buyers were obliged to buy bonds aimed at financing public transport (Chaponnière). The importation of refrigerators and televisions was also forbidden. A particularly well known case was that of colour televisions. Despite enormous pressure from domestic industry that had a huge (over)capacity to produce them, President Park refused to the very end their sale on the domestic market.

Strictly speaking consumption bans do not affect income distribution as such, as they only limit the spending side. However, it can be argued that

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footnote 1 continued from previous page:

foreign exchange; (3) provided political funds of more than 50 million Hwan in return for bank loans; (4) earned profits of more than 100 million Hwan in the process of contracting or bidding for public works or commodity trade in an illegal way; (5) earned profits of more than 200 million Hwan by monopolising the purchase or allocation of foreign exchange; (6) avoided taxes of more than 200 million Hwan; (7) illegally transferred their wealth abroad." (Jones and Sakong, p. 281).

"In the end ... a compromise was worked out whereby criminal sanctions were abolished, and the accused businessmen were to build factories and turn them over to the government. The matter was closed in December 1964 with most paying their fines in cash". (ibid.).

They conclude that "Some will view this episode as a "sell-out" while others will agree with us that it reflects the government's dominant commitment to growth coupled to a belief that entrepreneurs were an essential scarce commodity to be utilised in pursuit of that goal" (ibid. pp. 281-282).

[1] A number of authors (Michell, Brown, Kuznets, Fields) have pointed, however, at the many difficulties involved and their potential distortional effects of the way relevant data are collected, compiled and processed in the Republic of Korea.

diminishing the possiblities to spend (foreign travel was also largely restricted, if not outright impossible), puts the importance of gaining more income somewhat into perspective.

The Grain Management Fund and the Fertilizer Fund were set up to improve the rural-urban income distribution. When by the late 1960s it became clear that the gap between rural and urban incomes kept increasing, the Grain Management Fund was introduced in 1969. This fund was used by the Government to buy up rice and barley at a certain price to support farmers' incomes. As at the same time it did not want to increase the price of these products for urban workers, it sold them to consumers at a lower price. The Fertilizer Fund sold fertiliser at a set (subsidised) price. Whatever the precise effect of the operation of these two funds on the rural-urban income distribution, their effect on the state's budget was considerable, as their operation involved considerable subsidies (Hasan and Rao; van Liemt).

Finally, the policy of stimulating labour-intensive exports led in the 1960s to more employment, lower unemployment and contributed to higher wages. Simultaneously a significant portion of the labour force shifted from lower-income sectors (such as agriculture) to high-income sectors. Between 1966 and 1971, wages and salaries rose from 32.5 per cent to 39.1 per cent of national income (Brown).

Among the policies that contributed to a worsening of the income distribution was the agricultural policy of the 1960s that kept rice prices low. This considerably worsened the rural-urban income distribution and led to much migration (but was later corrected). Government's policy of controlling the unions has without doubt kept wages low and hours of work long in many industries.

Government's policy of allowing the chae-bol to outgrow their smaller competitors may have been appropriate on eficiency grounds, but the privileges awarded to them also allowed inequality to go up further.

More recently, growing inequality has resulted from the increase in property income (rents, interests, dividends) relative to other (chiefly labour) income. The share of all forms of property in national income rose from 12.7 per cent in 1975 to 18.6 per cent in 1981. That this should occur

after the so-called turning point in the labour market is disturbing, says Michell (p. 227). Moreover, the steepest rise in income from property occurred between 1979-81, which indicates say Michell, that the slowdown in the economy has affected real wages more than other incomes.

Summarising, the available evidence seems to point to a worsening of income distribution after 1970, but how serious this deterioration has been cannot be precisely assessed. The rural-urban income distribution worsened quickly in the second half of the 1960s, but this worsening was redressed in the 1970s. The relation between big and small enterprise has continuously changed in favour of big enterprise.

The Mexican income distribution has shown a steady decline for the (1950-75) period for which data are available (table 60). The high population growth, stagnation in the agricultural sector and the pattern of industrialisation that led to an increasing dualism in urban areas between those in the formal, unionised sector and those outside it are no doubt among the main explanatory factors. To be sure, government did try to influence the cost of living of (particularly the urban) poor through price controls and the CONASUPO food distribution chain. However, such measures failed to outweigh the negative impact of other measures such as protectionism and agricultural pricing policies, and the lack of adequate employment of half the population.

In Brazil, too, the income distribution is very uneven and has worsened over time (table 61). This seems to have been the effect of two factors in particular. First, wages for the unskilled and semi-skilled failed to increase significantly and second, those of the well educated and of those in managerial positions were bid up as a result of their relative scarcity.

Wages of the low-skilled workers were kept low through three mechanisms. First, there was the government's policy to keep minimum wage increases behind inflation, which was discussed in the previous section.[1] Second, there was the vast reserve army of poor landless workers who moved from the poor agricultural north-east to the industrial south. Their presence kept a downward pressure on wages of the un- and semi-skilled.

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[1] The government also had directly a great influence on the income distribution as so many people work in the statal or parastatal sector.

Table 60. Mexico: Distribution of household income (in percentage of total) and Gini ratio

Household percentile	1950[1]	1957[1]	1963[2]	1968[2]	1975[b]
A. Not adjusted for underdeclared income					
96-100	29.5	24.2	27.8	27.5	30.6
90-95	9.1	9.8	14.2	14.7	12.9
81-90	12.6	16.9	17.3	16.1	16.6
61-80	18.2	19.9	19.3	19.5	19.9
41-60	12.9	13.7	11.1	11.4	11.8
21-40	9.9	9.5	6.7	7.2	6.3
1-20	7.8	6.0	3.6	3.6	1.9
B. Adjusted for underdeclared income					
96-100	40.2	37.0	32.3	29.2	35.9
91-95	8.8	9.7	14.3	17.8	15.2
81-90	10.8	14.7	17.5	16.7	15.0
61-80	15.6	17.4	17.4	17.9	16.2
41-60	10.3	9.9	9.3	10.5	9.7
21-40	8.2	6.9	5.6	5.1	5.4
1-20	6.1	4.4	3.6	2.8	2.6

[1] Computed from Navarrete: La distribución, cuadros 9 and 10 (for part A) and cuadros 12 (for part B).

[2] Data in panel A computed from income and expenditure surveys; see table A-1 for citations. For panel B, see the appendix for details on the income adjustment process.

Source. Felix.

Percentage of total family income after tax accruing to:	1950	1958	1963	1968	1969	1975
Lowest 20%	6.1	5.0	4.2	(3.7)	4.0	(4.1)
30% below the median	13.0	11.7	11.5	(10.7)	11.0	(10.1)
30% above the median	21.1	20.4	21.7	(22.5)	21.0	(19.4)
Top 20%	59.8	62.9	62.6	(63.1)	64.0	(66.4)
Gini index	0.50	0.53	0.55	(0.56)	0.58	(0.58)

Source. van Ginneken.

Table 61. Brazil: Size distribution of income, 1960-80 (per cent of income)

Deciles	1960		1970		1980	
	In the decile	Accumulated	In the decile	Accumulated	In the decile	Accumulated
10	1.17	1.17	1.16	1.16	1.08	1.08
10	2.32	3.49	2.05	3.21	2.15	3.23
10	3.42	6.91	3.01	6.22	2.85	6.08
10	4.65	11.56	3.81	10.03	3.70	9.78
10	6.15	17.71	5.02	15.05	4.39	14.17
10	7.66	25.37	6.17	21.22	5.49	19.66
10	9.41	34.78	7.21	28.43	7.21	26.87
10	10.85	45.63	9.95	38.38	9.92	36.79
10	14.61	60.32	14.15	53.53	15.40	52.19
10+	39.66	100.00	46.47	100.00	47.81	100.00
5+	27.69	72.31	34.06	65.94	34.86	66.14
1+	12.11	87.89	14.11	85.89	18.21	81.79

Sources. Werneck, from: 1960 and 1970, Langoni (1973; 1980, FIBGE: Tabulaçoes avançadas de Censo Demográfico (1981).

A third factor was the government's interference in the wage bargaining process. By greatly reducing the role of the trade unions and indeed by assuming control over their activities their power was greatly reduced. Post-1964 legislation further weakened the position of the individual worker (he could easily be dismissed).

Facing these disorganised workers were a well-organised group of employers. Morley did a survey to establish the wage-setting mechanism in the São Paulo area and found that personnel directors of large firms often belonged to trade associations in which salary information was exchanged. He concluded that the personnel departments of some large firms set wages for their industries, and the smaller firms and the workers adapted to those wages. "Workers had no input in this process." (p. 225).

At the other end of the scale educated and skilled workers did well (see, for example, table 62).

Table 62. Brazil: Index of real wages by skill, 1961-76

	1961	1966	1971	1976
Unskilled	100	70.2	58.9	58.2
Semi-skilled	100	73.7	85.6	76.3
Skilled	100	86.5	94.1	108.3
Foremen	100	73.4	103.5	102.0
Managers	100	85.0	111.1	121.5

Sources. Morley (p. 187) from: DIEESE (1977). Wages deflated by DIEESE cost of living (COL) index. Sample is for four unions: textiles, metal, jouranlists and nursing.

This in turn was the result of two factors. First, there were relatively few highly educated and skilled workers and managers about when rapid growth started. Second, the pattern of growth was skill-intensive. The contrast with, for example, the Republic of Korea could not be greater. In that country, rapid growth started in low-skilled industries in an environment with a relatively well qualified labour force. In Brazil (and Mexico) the opposite happened. Industrial growth was concentrated in sectors which because of the products they produced and because of the techniques they used had a relatively high demand for skilled and well educated staff in an environment where those were relatively scarce! (also Morley, p. 202).

The worsening income distribution in Brazil seems thus in no small part policy-induced. The government was fully aware of this worsening income distribution. However, it considered increasing inequality an inevitable, if unfortunate, accompaniment of rapid growth. The inelastic supply of educated workers on the one hand and the large reserve of unskilled workers on the other "has the short run effect of increasing the dispersion of incomes and, therefore, of increasing inequality" (Carlos Langoni, ex-President of the Central Bank, quoted in Hewlett, p. 332).

The experience of the two Asian countries appears to indicate that this need not necessarily be true.

Chapter 6

CONCLUSIONS

This study has compared the process of growth in the manufacturing industry of Brazil, Mexico, Singapore and the Republic of Korea, four of the most dynamic newly industrialising countries. It has concentrated on the period 1960-80 with particular attention being given to the impact of government policies. However, a number of other variables have also been taken into account: the contribution of public, domestic private and foreign enterprises; the impact of growth on wages and employment, as well as changes in the distribution of income. These elements were included because it was considered that each would contribute significantly to a better understanding of the central issue of this study - how government policies influence economic performance. The disadvantage of such a broad approach is that it loses out in depth. The study may at times have done no more than scratch the surface, and the analysis may occasionally have raised more questions than it answers. Nevertheless, this approach was chosen because a purely economic approach could not alone explain their remarkable performance. In addition, a search for possibilities of emulation of their achievements would need to take account of these non-economic factors.

The newly industrialising countries became the focus of attention in industrialised and developing countries alike because of their high and sustained economic and manufacturing growth, and the large investment and international loans that they received. In the industrialised countries the rapidly rising exports of some NICs were blamed for affecting employment. Developing countries with similar ambitions, but unable to reach similarly high growth rates, asked how and under what circumstances their rapid growth had occurred.

Yet apart from above-average economic and manufacturing growth, the four countries selected have remarkably little in common. If one were to draw a caricature one could say that the first country is, for all practical purposes, an island which feels threatened by its northern neighbour with which - after a bloody war - it has never signed a peace agreement, and of which its own and other governments feel that the ideological war in which it is also engaged is far from over. Moreover, this country (the Republic of

Korea) has another neighbour, whose outstanding economic success is equally felt as a challenge. The second is a small independent territory built around an excellent natural harbour which is very strategically located. From a trading centre it became a manufacturing "miracle", and now is promoting itself as a services centre. This country (Singapore) has a large "hinterland" that is, in part, the basis of its success, but of which it is legally independent, allowing it to regulate the inflow of migrants at will. The third country shares a 2,000 mile border with the world's most powerful economy, to which it lost nearly half of its territory and which today is both its main trading partner and principal source of foreign investment. This country (Mexico) has also seen many of its citizens migrate north in search of an income. The fourth country is so huge that it dominates a whole continent. Indeed it has been called a continent in itself. It is a country (Brazil) with vast mineral, agricultural and forestry resources and with a domestic market that is among the largest in the world.

Even in their manufacturing industry the differences between them are remarkable. For example, in Brazil as early as 1949, 20 per cent of the GNP was generated in manufacturing, whereas 10 years later in the Republic of Korea this was still only 7.8 per cent. In Singapore, two-thirds of manufacturing output is exported, whereas in Mexico, until recently, most manufacturers would only think of export when for some reason the domestic market could not absorb all their production.

Despite these differences it was considered that the dynamic and sustained growth of their manufacturing industry, which had earned them a place among the newly industrialising countries, warranted their selection for further study. A choice of countries is, of course, always arbitrary, but as these four appeared on all selections of NICs, any other choice would have been at least as arbitrary.

The focus on domestic policies and other, essentially domestic issues should not be interpreted as a judgment on their importance relative to external factors. The underlying idea was that most countries and governments have to take the external environment very much as given, but that in the period under consideration, they had at least some autonomy over domestic policy. The focus on domestic policies seemed, therefore, more practical and potentially useful. It can, of course, be argued that their rapid growth was the result of the rapid expansion of demand in the OECD, and the rapid growth

of overseas lending and direct foreign investment that occurred in the 1960s and 1970s. Such a view is correct, but not complete. Many countries grew at a much slower rate during that period, and, therefore, policies must have been an important component of the explanation for these differences.

Nevertheless it is true that both domestic and external factors play their role in the process of development. This is perhaps best illustrated by what has become the most crucial development issue today: the foreign debt and how to service it. Until not too long ago it was considered normal for a government to indebt itself through loans, to finance an infrastructure that would benefit future generations as well as the present one and who were thus expected to contribute to its financing. Today, however, being in debt is frequently regarded as something bad - at least for developing countries. Yet when these countries contracted their debt, this was generally considered a correct, even desirable (because real costs were negative), thing to do. True, not all exercised sufficient control, and to these the level of the total outstanding debt may have come as a surprise. Not all may have paid sufficient attention to having a well structured debt, and their large share of short-maturity loans may have caught them off-guard when these were suddenly cut off.

It is obvious that countries that contracted debt, willingly increased their vulnerability and dependence on outside events. But, at the same time it must be asked who could have foreseen that the US dollar would appreciate by 50 per cent against other major currencies, that nominal interest rates would double at a time when inflation came down, and that capital inflows could dry up as quickly as they did in Latin America, where private inflows of US$24,000 million in 1981 turned into a net outflow of US$5,6 00 million two years later![1]

Another question that must be asked is how important were policies compared to certain objective factors. Are not objective factors far more important in determining the nature and pace of a country's development? Large natural resource-rich countries, for instance, may see no need to export

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[1] IADB: Economic and social progress in Latin America (Washington, DC, 1985, p.419).

manufactures as long as their primary exports finance their necessary imports. Indeed, their relative abundance of natural resources may render the underlying exchange rate so "strong" that it effectively discourages labour-intensive manufactured exports from being competitive and encourages imports of food and consumer goods, undercutting both rural and industrial development.[1]

By the same reasoning, small natural-resource poor countries would have no choice but to engage in manufactured exports. Yet the fact that many such countries have not followed this path can only be explained by policies. Comparing the totally different development path of Singapore in the last two decades with the once great port of Aden offers a clear example of what a difference policies can make.

A discussion of the results of policies must also consider the magnitude of the problems that governments faced. Manufacturing, export and employment growth, for example, was much higher in Singapore than in Brazil and Mexico. But is such a comparison meaningful? Singapore's high population density gives it a high yield on infrastructural investments and there is no large, slow growing agricultural sector to pull overall growth down. Few other cities can control the inflow of migrants the way Singapore can. Considering this, it could be asked whether Singapore's economic growth was really so much faster than that of a relatively well-off area in Sao Paolo of equal size. Despite their very high growth, one could also ask whether the Republic of Korea and Singapore could have grown even faster than they did. Such a question is not all that strange. What, for instance, would have happened if the massive investments made in the heavy and chemical industries in the Republic of Korea in the 1970s which resulted in huge overcapacity had been made in other activities?

"Lessons"

Whether "lessons" can be learned for other developing countries was the principal question that this study addressed. If anything it must surely have shown that this question can only be answered with great caution. Moreover,

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[1] In the extreme case of oil-exporting countries, this has been called the "Kuwait effect" (Ranis in Baer and Gillis, p. 215).

it is doubtful whether there are many lessons that have such general validity that they can be applied to a group containing a large variety of countries at different levels of development. Therefore, by necessity, these lessons must be formulated in very general terms.

1. The example of the NICs has shown that, given the right external environment and the right policies, sustained growth of manufacturing output, employment and exports at rates exceeding 5 and even 10 per cent per annum is possible. This puts a very high upper limit on developing countries' ambitions. It is important to bring this out, but it is also clear that not all countries may be able to achieve these high rates and indeed the four countries considered might not have been able to reach such high growth under the present circumstances.

2. The domestic environment, in which high growth occurred in the NICs cannot possibly be described as "a free play of market forces". To the contrary and despite their rhetoric, in each the government played and plays a significant, if not a dominant role. It seems important to stress this point as the opposite is often suggested. Even in tiny Singapore, where government involvement in the economy was perhaps smallest, the state owns dozens of enterprises. In Brazil many of the largest enterprises are government-controlled. Yet the fact that these governments intervened heavily in the period of high growth is not, of course, proof in itself that this intervention helped or hampered growth. One should not forget that a large part of the foreign debt in the Latin American countries was contracted by public enterprise. The question to be asked therefore, seems to be not so much whether government intervened, but rather how much and what kind of intervention contributed to success.

3. Close contacts between governments and business both in the formulation and implementation of policies were found to have been very beneficial. Maintaining good contacts proved by no means synonymous to governments slavishly following business desires (these are in any case too heterogeneous). In a mixed economy, however, government must be aware of the constraints facing business and it is doubtful whether it is wise for a government to stray too long and too far from market-indicated solutions. Naturally governments are concerned with the long-term interests of the population as a whole, but these need not be incompatible with a respect for

the market. In Singapore, for example, public enterprises are all profit-making but at the same time citizens enjoy a social security system that is virtually unique in the developing world.

4. The two Asian countries' success with exporting, and the Latin American debt crisis have underlined the central importance of the external sector. On the positive side, the experiences of the Republic of Korea and of Singapore are clear examples of how countries can benefit from strong overseas demand and how the need to compete internationally puts a check on the number of distortions a country can tolerate internally. On the negative side, there is now dramatic evidence of the risks involved in not taking timely action to redress sustained current account deficits and of neglecting the structure of the foreign debt. This puts an important check on the type of development chosen and how it should be financed. In addition, the experience of the four countries has shown how important it is to keep the exchange rate from becoming overvalued. Apart from obvious advantages such as avoiding an anti-export bias, this has proved important for avoiding capital flight.

5. The dichotomy between countries that followed import substitution and those that followed export promotion paths proved much less sharp, being a matter of degree at most. All four countries, at some point, had an element of both in their trade policies. Broadly speaking, one could say that for a long time the two Latin American countries stressed import substitution which indirectly discouraged exports. The two Asian countries had a more open approach and proved much better at taking advantage of the opportunities offered by the rapid growth of the world economy. Even Singapore, however, protected certain industries and the Republic of Korea, still protects important segments of its manufacturing industry thus showing that even in these two countries, which are often referred to as "super-exporters", openness is a matter of degree. It could be argued, however, that in the Republic of Korea protection was better planned and therefore less costly than in Mexico for example. In Brazil, more attention to exports in the second half of the 1970s led to them increasing in a spectacular manner. Its experience shows how complicated it is, however, to superimpose an export promotion regime on top of a system that is geared towards import protection.

6. Clarity and transparency of objectives and priorities and their combining in a coherent strategy, in addition to comprehensive and up-to-date statistics, a quick reporting system and a qualified civil service all proved essential for guiding economic growth. In the Republic of Korea, the outstanding example of a country which managed to combine high growth and drastic structural changes, a combination of planning; great concern for the economy at the highest level; a pragmatic approach to day-to-day policies, and a modest degree of direct participation in industry proved particularly successful. Planning contributed to greater co-ordination within the public sector and published targets helped business to check its investment decisions against government projections at an early stage. Plans were, however, not allowed to become a dogma. Day-to-day policies were flexible enough to manage constant change. Policies were matched to opportunities and constraints, and were reviewed and changed when they did not work (Bergsman, 1979, p. 90). Similarly, Singapore's success has been attributed not to the magic of the marketplace "but rather to the shrewd, flexible, pragmatic use of interventionist policies and market signals" (Lim and Pang, p. 135).

7. Successful policies are as much a matter of formulation as of implementation. However well thought out a development strategy may be, it will remain without effect unless the appropriate means to carry it out exist. The difference in the experiences of Mexico and the Republic of Korea, in this respect, are both telling and dramatic. When in the early 1970s President Echeverría tried to push through some social reforms he found he lacked the power to get them financed through higher taxation (instead he had to borrow abroad). In contrast, the Government of the Republic of Korea is extraordinarily powerful. Exchange controls, control over virtually all of the banks and over foreign travel (all non-existent in Mexico) further add to the government's powers.

The combination of a development-minded government and a strong central power has proved a very successful combination in economic terms in the Republic of Korea.

However, it is doubtful whether it is feasible and desirable to achieve or re-create such a highly controlled situation elsewhere. A "strong" government may appear desirable in economic terms, but the political implications will often rule it out.

8. Rapid growth need not necessarily be accompanied by growing inequality. Government intervention can prevent this or slow it down. The incentives to encourage investment tend to cheapen the price of the scarcest production factor, capital. Governments that want to promote growth may be concerned, therefore, that they are implicitly encouraging a worsening income distribution: directly, because capital owners receive a higher return on their investments, and indirectly because by encouraging capital-intensive growth, skilled workers also receive a premium. However, the experiences of both the Republic of Korea and Singapore have shown that growth and equity can occur together. True, in the Republic of Korea this was in large part the result of a redistribution before growth. Large-scale destruction of property after the war, and the land reforms of the late 1940s and early 1950s greatly contributed to this. These were made possible by exceptional circumstances, such as the departure of the Japanese occupiers.

But policies undertaken during the high growth period also contributed. The most important of these were the emphasis on universal education, and the policy that stressed labour-intensive industrialisation that made intensive use of the most abundant production factor. In the two Latin American countries the lower level of education of the majority of the people, together with a policy that stressed capital and skill-intensive industrialisation, bid up the income of the few who possessed scarce skills and capital, compared to the many low and unskilled workers whose services were in less demand.

9. This study has concentrated on the manufacturing industry. However, such issues as income distribution and un- and underemployment have proved to be far more sensitive to developments in the agricultural sector and to population growth. Perhaps one of the clearest conclusions which arises out of this study on manufacturing is the importance of agriculture. Internal terms of trade which do not discriminate against agriculture will have a favourable effect on income distribution. They will allow that sector to prosper and contribute to overall economic growth, to supply food to the population saving foreign exchange, and will discourage people from migrating to the cities.

The quest for "lessons" from the experience of the four NICs, taking into account of economic and political factors, has not resulted in the emergence of a particular model. At most one might say that this chapter and the ones

that preceded it, have stressed certain elements that appeared to have proved particularly successful, or that should be avoided at all costs. Government interventions were found to be important although these should show a respect for the "market" and the constraints imposed by the external sector. The choice of trade policies proved to be determined more by pragmatic factors than by a straightforward choice between import substitution and export promotion. A combination of high commitment to development, a properly defined strategy, in combination with flexible transparent policies has proved particularly successful. Finally, it was shown that economic growth need not automatically lead to a worsening distribution of income. Policies can successfully redress such a trend although much depends on agriculture and restrained population growth.

Rapid manufacturing growth has lifted overall economic and employment growth in all the four countries. Applying the above lessons would it be possible for other countries to follow a similar and equally sucessful development path? The answer to this question depends very much on their level of development. Industrialisation takes time. Building an infrastructure, training people and acquiring the organisational skills is a process that takes years, if not decades. It must be remembered that none of the four countries studied was a "typical" low-income country by today's standards. Brazil, Mexico and Singapore had per capita incomes of over $700 in 1960, and the Republic of Korea, despite lower income per head, had many characteristics of a middle-income country, such as high literacy and a relatively high educational level of its people. The Republic of Korea had also already known a rapid industrialisation phase in the 1930s.

Moreover, rapid growth through manufacturing may be a high cost route that, by itself, does not provide the solution to the employment problem. A job created in manufacturing costs much more than in agriculture, for example, and this argument has gained much weight now that investment funds are so scarce and expensive. From an employment point of view, therefore, it seems important not to favour industry unduly.

The growing protectionism in the world today makes it more difficult to attain high economic and employment growth through manufacturing and exports. Insecurity about growth of export markets makes investment in this sector more hazardous. Certain "successful" policy elements have been identified but it

is a fact of life that possibilities for emulation depend today more than ever on what happens outside developing countries - i.e. how fast demand will grow and the prospects for an acceleration of lending and investment flows. Although largely outside the scope of this study, some space must be dedicated to this.

The NICs in the world economy

The NICs are linked through trade and financial flows with the "established" industrialised countries. Their greater participation in the world economy and rapid growth made them, for a long time, into the most dynamic markets for OECD countries. The NICs, in turn, have become sizeable exporters of such products as textiles, clothing, footwear and ships. At a time of low economic growth and high unemployment these imports from the NICs are no longer as welcome. Calls for protection against these imports are often "justified" by referring to the poor working conditons of workers in the exporting countries. ("Workers receive low wages and are being exploited, and this makes it so difficult for us to compete with them. Letting in exports from these countries would encourage exploitation of these workers.")

Certain objections must, nevertheless, be raised against this kind of reasoning. First, it treats importing as a privilege, rather than as a means to increase welfare. Second, taken to its extreme form, such reasoning would exclude all imports from countries at a lower level of development. The most important objection that can be raised to this reasoning is, however, its essentially static character. A more dynamic approach would recognise that international trade is a means for all countries to accelerate growth of output, income and wages.

Such an approach finds considerable support in the experience of the two countries that relied most on exports for growth: Singapore and the Republic of Korea. Thanks in no small measure to the possibilities offered by international trade, Singapore now has a per capita income higher than Italy's and 40 per cent higher than Spain's. Its government, moreover, provides its citizens with a generous system of social security.

In the Republic of Korea per capita income went up from $100 in 1960 to US$2,000 in 1983. Real wages in manufacturing quadrupled between 1960 and

1978. Low wages may have been advantageous in the early stages of exportation. Today, and thanks to having been able to grow and export, they have reached much higher wage levels.

It is true that working hours are still long[1] and that wages of women workers are much lower than that of their male colleagues. It should be asked, however, whether these are problems typical of the NICs or whether they also exist elsewhere, given the substantial gaps persisting in OECD countries.

The focus on imports also ignores the importance of NICs as markets. Brazil and Mexico, for example, are huge markets. Together they are over four times the size of Sweden or Switzerland. For many years they were among the world's most dynamic export markets.

The world recession and, above all, the debt crisis has changed all this. The dearth of fresh loans and the high debt service-costs have forced Brazil and Mexico to cut their imports to the bare minimum and this brought about domestic recession. It has also robbed the OECD countries of many export opportunities and jobs. Using ILO data, UNCTAD has calculated that the contraction in exports to developing countries has resulted in a loss of close to 7 million work-years of employment in OECD Europe and close to 1 million work-years in North America between 1981 and 1984 - i.e. a loss of 2 to 3 million jobs in the industrialised world (UNCTAD T + D Report 1985).

The absence of fresh capital, both in the form of equity, and loans severely limits the possibility for other developing countries of emulating the experience of the NICs, which all relied, to a large extent, on foreign capital to initiate the necessary investments and bring about rapid growth. It is unlikely that in the absence of these massive capital inflows such a rapid turnaround from low to high growth as occurred in the Republic of Korea and Singapore can be repeated. The current low level of demand in the OECD and the rise in protection are additional factors which will inhibit a repetition of the high growth process. Worse still, the insecurity about OECD

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[1] Workers in the manufacturing industry worked 53.1 hours per week in the Republic of Korea, 48.6 hours in Singapore and 46.5 hours in Mexico in 1980. In the OECD these figures varied from 33.4 hours in Belgium to 43.8 hours in Switzerland in the same year (ILO).

demand growth and protectionism will deter foreign investments and loan-capital flows because investors and lenders cannot be sure of the generation of necessary high growth to turn these flows into sound business opportunities. This insecurity about developing country growth prospects is added to a general reluctance among entrepreneurs to invest due to high interest rates and the instability in foreign exchange markets.

If the current situation continues a vicious circle may result as recession in the NICs and other heavily indebted developing countries will rob OECD countries of jobs in their exporting sector, which in turn will lead to greater pressure for protectionism. This will reduce developing country exporters' chances of servicing their debt and will prolong their domestic recession.

Urgent action is needed to break out of this circle by providing loans and investments, rescheduling "old debts", lowering interest rates, and reducing protectionism. Through its budget and trade deficits, the United States has provided the world with a huge demand stimulus in the past few years. Now that these deficits have become unsustainable it is imperative that Japan and European countries with low inflation take the lead in this. This will allow sufficient growth to be resumed. In the introduction to this study, it was stated that the rationale for the focus on the period 1960-80 was that the current situation was considered to be an exceptional one. It is political action that must make sure that it is.

ANNEX

Some socio-cultural background information

This annex gives a brief and broad overview of the socio-cultural "background" of Brazil, Mexico, the Republic of Korea and Singapore. It is included because such information is considered relevant for a better understanding of the discussion of their performance. It remains nevertheless true that it is not always clear how precisely a certain characteristic influences or has influenced certain growth variables.

The size of each country, particularly in connection with population density, gives an indication of the communication problems that may exist and the yield on the available infrastructure. A large, scarcely-populated country would have to spend relatively more on infrastructural investments than a small densely-populated one. The very densely-populated two Asian territories would thus seem to have a clear advantage.

The variations in land area are huge. The City State of Singapore comprises no more than 620 km^2, whereas Brazil occupies nearly half the South American continent. Its 8.5 million km^2 make it the fifth largest country in the world. Mexico is the world's thirteenth largest country. Its surface comprises 2 million km^2, some 20 times larger than the Republic of Korea. Although it is part of mainland Asia, for all practical purposes the Republic of Korea is an island due to the absence of any means of communication with its neighbours to the north.

The differences in the number of inhabitants are less extreme. In the early 1980s Singapore had 2.4 million inhabitants and Brazil 120 million, the Republic of Korea 38 million and Mexico 70 million. These differences are widening rapidly, however, as the population of the two Latin American countries grows much faster than those of the two Asian countries. The population of Mexico grows particularly fast. In the 1970s it grew twice as fast as that of Singapore.

Race and religion have shown to be often more a dividing rather than a unifying force in the building of a nation state and the achievement of common

goals. When one group tries to impose its culture on the others these differences may not be immediately apparent as they may linger on underneath the surface for a long time. A policy that allows for pluriformity and tries to avoid one group dominating political, economic or cultural life, may prove beneficial in the long run, although all depends on how minorities perceive these efforts and how successful these policies are in achieving stated aims. The feeling of not being discriminated against would seem to free much energy for achieving positive (constructive) goals.

The Republic of Korea, which consists of one homogeneous race speaking one language, thus seems to have an advantageous starting position. The country also has few regional differences. In terms of religion it is a pluriform society. Buddhism is the main religion (44 per cent of the population), but significant minorities believe in Christianity (28 per cent) and Confucianism (17 per cent). The Confucianist heritage appears to have worked as a unifying force however, and has been influential in terms of respect for the State, prestige attached to the administration, respect for one's superior and the place occupied by scholars.

The other three countries are dominated by immigrants. Mexico was originally an Indian country. After it was "discovered" many (mainly southern) Europeans migrated there and have kept on doing so to this day. The descendants of these immigrants have come to dominate political and economic life in Mexico. Many Mexicans are of mixed blood (Mestizos). Many Indians have survived and live mainly in the South of the country. They are also the poorest group in society.

Brazil's population has been shaped by different waves of immigrations and is as much a "melting pot" as the United States. Some descendants of the original inhabitants, the Indians, can still be found in the Amazon region. The Portuguese colonialists imported many millions of Africans as slaves to work on the sugar plantations. The nineteenth and twentieth century saw the immigration of many other Europeans, such as Germans, Poles and Italians. This century has also seen a steady inflow of Japanese (called Nissei in Brazil).

Language (Spanish in Mexico and Portuguese in Brazil) could be considered a unifying force in the two Latin American countries, although the Indians have their own languages, and much German and Japanese is spoken in Southern Brazil. The same could be said for religion. Both Brazil and Mexico are considered Roman Catholic, although for some people from Indian and African origin this faith has been at most only partially integrated into their traditional beliefs.

Singapore's population is very diversified, both in origin and culture. Its population is made up entirely of immigrants and their descendants. Most people are of Chinese origin (77 per cent of the population), but there are significant minorities of Malays (15 per cent) and people of Indian origin (6 per cent) as well as some Europeans. The religious pluriformity is even greater and partially follows racial origin. Most Malays, for example, are followers of Islam. The Chinese and Indians are more diverse in their religious affiliation. Hinduism is the religion of most Indians, but Islam and Christianity are also important. Most Chinese declared themselves Taoists or Buddhist in the 1980 Census.

Such diversity can easily lead to racial and religious problems and this indeed occurred at the end of the Japanese occupation. However, even before independence in the 1950s, efforts were made for greater racial and language integration. After independence, the government took great care to promote ingration of the different races. English was promoted as the universal second language but Chinese (Mandarin), Malay, Tamil and English are all official languages.

History. Each of the four countries has been colonised by a different world power. The Republic of Korea's location between Japan and China made it vulnerable to invasions from both sides. Over the centuries these have indeed taken place on a number of occasions. From 1910 to 1945 it was formally a colony of Japan. This contributed, in no small way, to the modernisation of the country's industry and infrastructure. The American liberators who arrived in 1945 in South Korea are still there, albeit in a reduced number (38,000 troops). The direct influence of the United States on Korean society seems to have been less than that of Japan although the country undoubtedly benefited from its aid and from being in the American "safety net".

From 1950 to 1953 a war between the two Koreas destroyed large parts of the country and many lives were lost. In 1961 General Park Chung Hee became president. He remained in this job until he was murdered in 1979.

It has been argued that for a number of reasons, such as the modernisation of the legal and administrative systems, the Japanese occupation reinforced the remarkable fluidity of the Republic of Korea's class structure (Cole, Lyman, pp. 154-157). The large-scale destruction of physical property during the 1950-53 war and the land reforms must have further worked as an equalizing force.

Singapore became a British colony in 1824. It was used as a centre for entrepot trade and as a military base. The country became an important regional oil refining centre under British rule. It gained self-government in 1959 and formal independence in 1963. Between 1963 and 1965 it formed part of the Malaysian Federation. Since 1959 the same party (PAP) and the same prime minister (Lee Kuan Yew) have been in power.

The two Latin American countries gained formal independence in the early nineteenth century. Mexico was colonised by the Spanish. The colonial power extracted as much wealth as possible which was shipped back to increase the grandeur of Spain. Local noblemen were given parts of the overseas territory as reward for services rendered. The overseas noblemen took care to establish a class structure in the faraway country, carefully shaped after the one they had known at home. The racial undertones and the exploitative character of the arrangement laid the ground work for the stratification and huge differences in wealth and income that are still existent.

Although Mexico gained independence from Spain in 1821, modern history is generally regarded to have started a century later when the revolution ended. The nineteenth century saw a war with the United States (as a result of which it lost half its territory), occupation by France (1861-67) as well as a period of relative stability under Porfirio Diaz ("The Porfiriato": 1876-1911). Diaz followed a policy that welcomed foreign investment. His rule was based on the support of a small group of (around 800) large landowners (hacendados). These very independent hacendados greatly expanded their lands at the expense of the small peasant landholders. At the beginning of this century these peasants had become so impoverished that the situation

had become untenable. They joined forces with the small middle-class and fractions of the upper-class who felt threatened by the growing influence of foreigners, and in 1910 the Mexican Revolution broke out.

Different armies under leaders such as Pancho Villa and Emiliano Zapata managed to defeat Diaz in a very bloody civil war that lasted nearly 10 years and cost the lives of approximately 1 million people (Novib and Schlagheck). After the end of the revolution it took another 10 years until a certain degree of political stability was re-established. In 1928 the National Revolutionary Party (PNR) was created that would regulate the presidential succession.

Although nationalism and agrarian reform had been the main themes of the revolution, very little had been redistributed until 1934 when Lazaro Cardenas came to power. Cardenas introduced a whole series of reforms. He redistributed land on a massive scale (18 million hectares), promoted industrial development, and nationalised (in 1938) certain key industries, including the oil industry. In order to mobilise support for these radical changes, Cardenas organised the peasants and the workers in federations (CNC and CTM, respectively). These two organisations were adopted by the ruling party that changed its name into PRM (Mexican Revolutionary Party) and in 1946 into PRI (Institutional Revolutionary Party). All Mexican presidents of the last 55 years have been selected by, and have been members of the PNR, PRM or PRI.

The colonisation of Brazil by the Portuguese had a much more modest character than that of the rest of America by Spain. Portugal was much poorer than Spain and Brazil appeared not to have any gold or silver. When, however, in 1768 this proved incorrect and gold was found in Minas Gerais, a true "gold rush" developed and 300,000 people came over from Portugal.

Unlike most of Spanish America, Brazil has not needed to battle for independence. In 1808 the Portuguese royal family moved to Brazil (when Napoleon neared Lisbon), and later, in 1822, the King' son Pedro refused to go back with his father and stayed behind to become Emperor of Brazil. In 1889 the country became a republic. Individual states enjoyed great independence and central power was very loose. The Military Coup of 1930 brought Getulio Vargas to power and his "new republic" marked the beginning of strong central power in Brazil.

Vargas stayed in power until 1945 and returned in 1950, this time elected. When he committed suicide in 1954, Kubitchek became president. In 1964 a military coup d'état took place. Different generals served as president until 1985 when the first non-general was elected president.

Land distribution. Land is very unevenly distributed in Brazil and Mexico. In the Republic of Korea, in contrast its distribution is remarkably equal. In Singapore the issue is not important.

In Brazil huge "fazendas" of over a million hectares exist side by side with many small peasants' "minifundistas". These minifundistas make up three-quarters of the peasant population but they own only 12 per cent of the land. On the other hand some 10 per cent of the land owners own three-quarters of the land.[1] There are over 12 million landless peasants.

Inequality among regions is also great. Farmers in the south-east are prosperous compared to the many poor people who work the poor soils of the North-East. Much agricultural land in the Amazonas and in the South-West is yet to be colonised or is being colonised.

Brazil has never known land reform, although a law to that effect was passed in 1964. The ensuing coup d'état, however, prevented its implementation. The Government did help the agricultural sector by providing loans and subsidised inputs as well as by supporting coffee prices. However, these policies benefited mostly the modern, commercial farmers.

Mexico initiated a land reform as part of the 1910 revolution. The reform aimed at distributing the land to the landless workers and tenants who were cultivating it. The land reform programme created communal landowning entities (ejidos). Many people have benefited from the reform, but it has taken a long time. Between 1916 and 1976, 68 million hectares were redistributed, of which 2.6 million people benefited. Yet 60 years after the revolution 56 per cent of the land distributed is still waiting to be

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[1] Morley (p. 241) reports that the land distribution in Brazil is exceedingly unequal. The Gini coefficient for land distribution was already a very high 0.84 in the 1950s when it was 0.72 in the United States, 0.57 in Canada and 0.51 in India.

regularised by the courts. Moreover, the land distribution is still highly unequal and this appears to be worsening. Moreover, productivity differences are enormous. At the large non-ejido farms it is high thanks to considerable private investment and irrigation facilities. In the reformed (ejido) sector due to its subsistence character, capital accumulation is small or non-existent. This sector did benefit from some public credits but these had often to be used to finance running expenses. The poverty of the small peasants does not allow them to cultivate all their land and nearly half of all agricultural land is not used as such. Despite upper limits on landholdings, the best agricultural land used for export crops and agro-industry is in a few hands and is cultivated very intensively.

In the Republic of Korea no large landholdings are permitted by law. Nobody can own more than 3 hectares. As a result absolute differences in size of holdings are very small. This relatively equal land distribution is the result of a series of land distribution programmes that took place in the late 1940s and early 1950s.

Natural resource endowment and energy supply. Mexico is well endowed with natural resources. It is one of the world's main producers of silver and uranium. Proven reserves of these minerals are considerable. At a daily output of 2.6 million barrels (half of which is sold abroad), it is the fourth largest world producer of oil. In 1981 proven oil deposits were over 70 million barrels, probable holdings 30 billion and potential reserves 300 billion (Looney, p. 34). Mexico also produces natural gas, bismuth, sulphur, fluorite and lead. Arable land however is scarce. The arid climate and the harsh topography limit it to 16 per cent of total land area.

Brazil is virtually self-sufficient in agriculture. The only important agricultural product it has to import is wheat, which made up about 5 per cent of total import value in 1980. Oil and high quality coal are in short supply, but the country is rich in other minerals such as manganese, lead, copper, tin and gold. Brazil's iron ore deposits are among the richest in the world. Until very recently Brazil had to import over 80 per cent of its oil needs. The cost of this made up 40 per cent of total merchandise imports in 1979.

Oil and coal may be scarce, but the country has considerable supply of other energy sources. Its hydroelectric potential capacity, for instance, is estimated as being at least 200 million kwH. The recently completed Itaipu project in the Parana river, a joint Brazilian-Paraguay undertaking, is the biggest hydroelectric plant in the world. Alcohol from sugar cane has become an important substitute for petrol. The country also possesses enormous forest resources which cover 60 per cent of its surface. Brazil owes its name to the reddish "pau Brazil" wood.

The Republic of Korea's natural resources are very limited. Its soil only produces some low quality coal, some iron ore and tungsten. Most of its energy sources, particularly oil, need to be imported. To reduce its dependence on oil, the country is developing an important nuclear and hydroelectric programme. Only 23 per cent of this "land of high mountains and sparkling streams" is cultivated.

Singapore has no natural resources to speak of. It has to import all its energy requirements. As the "lion city" is an important regional refining centre, it imports more oil than it needs for domestic consumption. Only a very small and declining portion of its territory is cultivated.

Some important historical and political data

REPUBLIC OF KOREA

1876	The "Hermit Kingdom" opens up to the world
1910-45	Korea is annexed by Japan
1945	Korea is liberated, but divided into North and South
1945-48	South Korea ruled by an American Military Government
1948	Creation of the Republic of Korea; Synghman Rhee president
June 1950	The Civil War breaks out
July 1953	A Truce Agreement is signed
1960	Syngman Rhee steps down after students revolt
	A new government (Chang) is elected
1961	Military coup d'état, General Park Chung Hee becomes president
1963	Park is elected president
26.10.79	Park is killed

SINGAPORE

1819	Stanford Raffles lands on the island of Singapore, which is then inhabited by 120 Malays and 30 Chinese.
1824	Great Britain buys Singapore.
1942-45	Japanese occupation.
1959	Internal self-government, PAP (People's Action Party) comes to power. Lee Kuan Yew, Prime Minister.
1963	Independence from Britain. Formation of the Malaysian Federation.
1965	End of federation with Malaysia.

BRAZIL

1500 Pedro Alvares Cabral "discovers" Brazil.

1822 Independence declared; Dom Pedro I becomes Emperor.

1889 Brazil becomes a republic.

1930-45 A coup d'état brings Getulio Vargas to the presidency. The "New" Republic (Estado novo) is declared.

Post-1945 Presidents:

1945-50 Dutra

1950-54 Vargas elected president.

1954-60 Juscelino Kubitscheck.

1960 Janio Quadros

1961 Joao "Jango" Goulart.

1964 Military coup d'état, presidents:

1964-67 Humberto Castello Branco.

1967-69 Arturo da Costa e Silva.

1969-74 Emilio Garrastaza Medici.

1974-79 Ernesto Geisel.

1979-85 Joao Figueiredo

MEXICO

1519	Mexico "discovered" by the Spaniards
1821	Independence from Spain
1847	War with the United States; California, Nevada, Utah and New Mexico become part of the United States.
1861-67	Occupation by the French army
1876-1911	"The Porfiriato". Porfirio Diaz President
1910-20	Revolution

Post-1920 Presidents:

1920-24	Obregon
1924-28	Calles
1928-30	P. Gil
1930-32	O. Rubio
1932-34	Rodriguez
1934-40	Lazaro Cardenas
1940-46	Avila Camacho
1946-52	Miguel Aleman
1952-58	Ruiz Cortines
1958-64	Lopez Mateos
1964-70	Diaz Ordaz
1970-76	Echeverria
1976-82	Lopez Portillo
1982-	Miguel de la Madrid

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